

**THE TRADITIONAL COMPOUND AND SUSTAINABLE HOUSING
IN YORUBALAND, NIGERIA: A CASE STUDY OF ISEYIN.**

Thesis submitted
for the degree of
Doctor of Philosophy
in
Architecture

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Abstract

This research is concerned with Yoruba traditional habitation using the community of Iseyin as a case study. The traditional compound (*agbo-ile*) of the Yoruba of south-western Nigeria is the tangible product of the ingenuity of the people, which evolved from their indigenous technical knowledge. Its design, production, regulation, management and administration were, to a large extent, handled on a co-operative or communal basis. The virtues of the traditional compound have sustained the people throughout the land until recently when modern houses began to replace the traditional compound. The methods of building and the planning and use of houses have changed in response to the demands of Westernization, modern technology, migration, urbanization, architects' craze for complex designs and preference for non-local building materials, and the Christianization and Islamization of the society, and government's planning and physical development policies. *Agbo ile* no longer appeals to the affluent and those already exposed to Western ideas, resulting in the decay, collapse and complete ruin of the age-long courtyard mud houses.

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DEDICATION

This research is dedicated, first, to the indigenous people of Yorubaland whose functional and timeless traditional architecture is under serious threat of extinction; second, to the loving memory of my late mother, Madam Nusirat Jejeola Ajini, and my late father, Chief Wahab Adetoro Akanji (the Baale of Ikere); and third, to my darling wife, Adebimpe Apeke and our children, Bolanle (Jnr.), Abimbola and Bolaji.

**As the pace of modern life becomes
more hectic everywhere, the peace
and seclusion of the courtyard house
[the Yoruba traditional compound]
will no doubt recommend this type of
dwelling more and more.**

**-- Macintosh, Duncan (1973).
The Modern Courtyard House.
London: Lund Humphries, p. 44**

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CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND

From the colonial period to the post-independence era, various governments in Nigeria had made several attempts to tackle housing problems facing the citizens, especially the urban residents. The efforts have included the creation of Government Reservation Areas, direct construction of low-cost houses, rent control measures, housing loan schemes, and importation of building materials, and site-and-services schemes.¹ Government efforts have focused more in the construction of modern 'low-cost' houses of inappropriate designs, constructed with costly building materials, and built in remote locations. The houses have benefitted only a very small section of the community -- the affluent and influential few -- leaving the lower-income members of the public (who, unfortunately, constitute the majority) to fend for their own housing. The housing of the poor majority could only be the traditional type in design, materials and mode of construction, as well as the living environment. Traditional housing is what their resources can support.

The residents of the traditional houses have, however, been found to be a lot happier in their living environment than those living in modern houses where the motor car has been given greater attention than the human being; where people live in prison-like apartments in which all openings (windows, doors, and gates) are in near-total blockade by heavy iron rods in the name of burglar-proofing. The heavy fortifications have ironically attracted more armed robbers to the modern residential areas than to the traditional residential quarters.

This research is concerned with the Yoruba traditional habitation using the community of Iseyin as a case study. "Habitations are among the first truly human creations, and embody the resources, technical knowledge, and skills, the central ideas and values that organize the

domestic and family life of the people who build and inhabit them." ² The Yoruba traditional compound (*agbo ile*) is the tangible product of the ingenuity of the people, which evolved strictly from the indigenous technical knowledge of the people, their customs, beliefs, local resources (human and material), pattern of political and social organization, especially group spirit or communality, cultural values, climatic and environmental considerations as well as group needs and aspirations. *Agbo ile* reflects an ingenious method of house design based on local knowledge and group concepts using most common and locally available, affordable and sustainable resources.

The Yoruba traditional compound richly embodies and illustrates the cultural aptitudes, preferences, and development of the people who build and inhabit them. The compound reflects the domestic and family life of the people and also their economic activities. The courtyards of the compound often contain farm products spread in the sun to dry, piles of firewood brought from the farm for cooking and, in particular, for the marriage ceremonies which take place in the dry season when there is little to be done on the farm. The ceilings (*aja*) of the compounds serve as drying areas for food items including yam flour, (*elubo*), corn (*agbado*), beans (*ewa*) and melon seeds (*egusi*), and also as stores for the safe keeping of the farm products.

There have been several studies of domestic or vernacular architecture of African society by architects, town planners, anthropologists, as well as others with an interest in human settlement studies. Oliver ³, Schwerdtfeger ⁴, Ali ⁵, Prussin⁶, Denyer ⁷, and Carroll ⁸ have produced excellent works in this regard. Schwerdtfeger's study is on traditional housing in three African cities namely: Zaria and Ibadan in Nigeria, and Marrakechi in Morocco. In Ibadan Schwerdtfeger examines the land tenure and land use in the older parts of the city, its demographic growth and characteristics including migration and ethnic composition. He devotes a substantial part of the work to domestic groupings and the traditional compound

including the occupations and incomes of households and family heads, their expenditure on house repair and construction, technology, raw materials, and the organization of local construction industry in relation to the Yoruba compound in Ibadan. Schwerdtfeger surveyed 63 compounds in Ibadan but his analysis does not include the issue of decline of the compounds.

Onibokun's ⁹ edited work on *Housing in Nigeria* provides information on the state of housing in the country. The authors discuss a wide range of issues including housing problems and needs; housing policies and programmes of past governments in Nigeria; methods of financing housing including housing cooperatives; housing design, construction materials and technology; and urban upgrading projects in the country. None of the authors, however, examine the traditional compound. Ojo ¹⁰, Mabogunje ¹¹, Lloyd ¹², and Dmochowski ¹³ have analysed various aspects of the Yoruba traditional compound such as the plan of the compound, building materials, organization of construction, and compound population. The issue of decline of this important indigenous architecture and the implications of its near-total extinction (which includes the loss of tradition, cultural heritage, increase in homelessness, street sleeping with the attendant city crimes and violence) has, however, not received any attention. Dmochowski's *Introduction to Nigerian Traditional Architecture* aims to make known those achievements of Nigerian architecture. The work contains many measured drawings of traditional houses across the country. He discusses the determinants of the traditional Hausa, Igbo and Yoruba house forms and elements of the houses including decorative materials. None of the three volumes of the work, particularly volume two which is devoted to south-west and central Nigeria, looks at or discusses the issue of the decline of the traditional compound. He deals more with secular architecture than domestic.¹⁴ Mabogunje's study focuses on the growth of residential districts in Ibadan. He discusses the factors influencing the growth of the city and, in particular, two patterns of growth which he

calls "growth by fission", and "growth by expansion". "Growth by fission," according to him, "is the replacement of simple, large structures by more complex and more numerous smaller units...[caused by] the factors of individual economic independence, religion, Christianity and Mohammedanism, and the traditional attitude to land." ¹⁵ Mabogunje's study of urbanization in Nigeria discusses the physical structure of Yoruba towns especially in relation to the classical theories of urban growth and development and devotes chapter nine of the work to the internal structure of Ibadan. He observes that the traditional compound in Ibadan is disintegrating due to the process of "growth by fission" ¹⁶ (see fig. 1). He, however, does not examine, in either of the studies, the details of the disintegration of the compound including the rate, magnitude and implications.

Ojo ¹⁷, in his work on the development of Yoruba towns in Nigeria, describes the nature of housing and community facilities in Yoruba towns. He informs us about the cultural patterns of the towns including changes that are taking place. However, this work and those on *Yoruba Culture* (1966a) and *Yoruba Palaces* (1966b) do not tell us anything about the decline of the traditional compound. Kevin Carroll in his study on architectures of Nigeria describes traditional architectures in the western half of the country. She discusses the forms of the houses, materials and methods of construction as well as the influences from outside Africa especially the "Brazilian" house style which got introduced to Lagos by the returning slaves from Brazil. Although Carroll notes in chapter nine (page 109) that "many traditional Nigerian architectures have become extinct in the last fifty years, and it seems unlikely that any will survive beyond the early years of the next century," ¹⁸ she does not uncover the rate, magnitude and implications of the possible extinction.

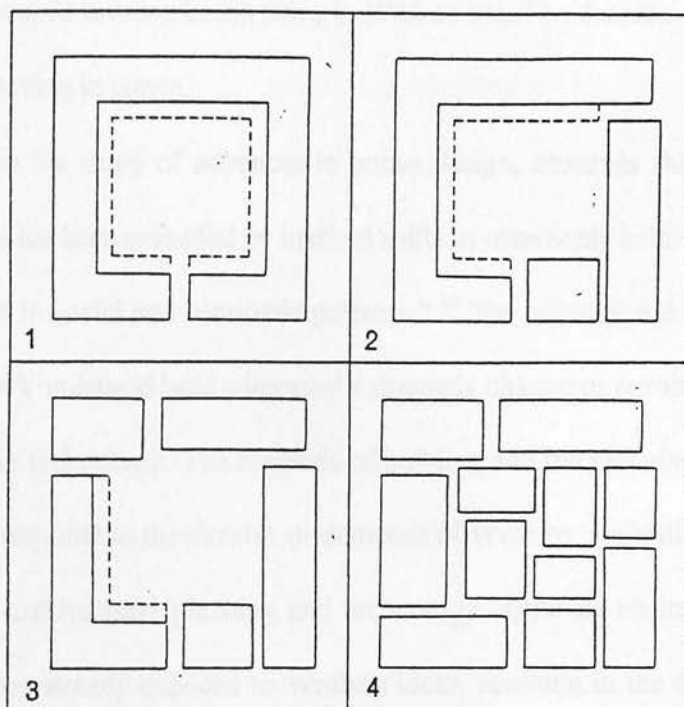


Fig.1: Diagram intended to illustrate the fission disintegration of Yoruba traditional compounds as modelled by Mabogunje, 1962.

Key: 1, compound intact;
2, incipient fission;
3, advanced;
4, terminal fission.

Source: Mabogunje, Akin (1962), *The Growth of Residential Districts in Ibadan*. p. 60

The compounds are falling into ruins at an alarming rate resulting from neglect, the increasing changes in family structure, and the preference of contemporary young adults to live away from the extended family compound. A survey of traditional compounds in Iseyin carried out by the author in April 1996 reveals that there are 708 identified/named compounds in the town out of which only 246 are still intact and habitable as opposed to the 670 traditional compounds existing in the town in 1966 as noted by Jennifer Bray ¹⁹ in her study of traditional weaving in Iseyin.

Spring, in his study of advances in house design, observes that "every change in architectural style has been preceded by marked shifts in commonly held values, in command of materials, and in social and economic patterns." ²⁰ The colonial and especially the post-colonial period in Yorubaland have witnessed a dramatic change or revolution in the people's way of life and in technology. The methods of building and the planning and use of houses have changed in response to the dictates or demands of Western civilization and its attendant foreign style in architecture, planning and technology. *Agbo ile* no longer appeals to the affluent and those already exposed to Western ideas, resulting in the decay, collapse and complete ruin of the age-long courtyard mud houses. The unfortunate consequences of this situation are well described by Chermayeff and Alexander:

While failing to produce satisfactory new environs we are losing the best of the old Ancient powerful symbols and images -- unique and irreplaceable places, buildings, civic statuary, and entire historic cities, man's most telling evidence of a communal way of life -- are being neglected or totally destroyed. And modern man seems unable to produce their modern equivalents.²¹

This study is meant to fill the existing gap. It is a documentation of what remains of traditional compounds in Iseyin. It is also an explanation and examination of the implications that possible extinction of the traditional compound bears upon the people and their culture.

The research explores the restoration of the traditional compound and its use largely as a solution to current housing problems in Nigeria and the creation of sustainable housing in 21st century Nigeria.

The virtues of the traditional compound call for its preservation. The poor state of the Nigerian economy (reflected in the inability of individuals to embark on housing construction) requires that greater attention be paid to the continued construction of the Yoruba courtyard houses which are, in the author's opinion, characterized by restfulness, security, ample privacy, expansibility, humane environment, social cohesion, introspectiveness, low-cost maintenance, and high sustainability. The problems of the Yoruba traditional compound include the lack of sanitary facilities -- especially toilets and sewage systems -- and also pipe-borne water, as well as a "cob-web" of roads. All these could be easily provided for in existing compounds and be made an integral part of new ones. A sustainable environment through sustainable development is now a global issue. The concepts of neighbourliness, communality, reciprocity, and group spirit which govern the life of the Yoruba make the issue of sustainability of their housing environment possible, easy, and assured.

Town planners (*atolu*, *atunluto*) have a lot to learn from the traditional layout of the *agbo ile* which gives it its distinctive appearance. The layout is characterized by a dense network of pedestrian paths with a low penetration of roads, and a well-articulated system of public open and recreational spaces similar to what Macintosh found in the Albertslund housing scheme in Denmark ²². The sociologist's interest in the compound's courtyard will be its social functions, an exceptionally safe place for children to play, and a place for the old to enjoy the rest of their lifetime in the care and company of children, grandchildren and kins. To the environmentalists (*onimo ayika*), the compound provides an excellent micro-climate for plants (*nkan ogbin*, *eweko*), domesticated animals (*eran osin*), and people. The joy of the urban designer (*atolu*, *ayaworan-ihu*) lies more in the facts that the compound provides a safe

environment for pedestrians, offers protection from the noise and visual disturbance of traffic, and promotes social intercourse as people are drawn to its articulated system of public open space in addition to its private courtyards. Architects' (*ayaworan ile*) support for the compound, with its characteristic inner courtyard, lies in the fact that the compounds allow cross ventilation, they are climate-responsive, they provide shelter against wind, they facilitate outdoor living and outdoor sleeping, and they can be built for rental housing.

This study does not argue that the traditional compound alone is self-sufficient to solve all of the housing problems plaguing Nigeria; rather it advocates that the potentials of the traditional house form be used in conjunction with appropriate modern technical knowledge to create affordable, socio-culturally responsive and sustainable housing and housing environment in Nigeria. It is a fact that the economic structure of the society has changed. But it is equally true that the present economy is weak and in a serious depression and will require the people to continue to utilize group organization, shared values, and resource-pooling strategies to be able to live. Community finds its expression in compound living.

There is a tendency in Nigeria for single-family, separate-living, patterns to increase over time. This thesis stresses that single families should continue to be part of and not alienated from group or communal activities. Those individuals who may choose to have dwelling units of their own detached from *agbo ile* should and would not be deprived but rather encouraged to partake in communal living which remains a guarantee for socio-economic survival in the larger society.

1.1 Significance of the Study

This study fills an existing gap in the previous works done by scholars on the Yoruba compound by focusing on the issue of their decay, abandonment and rapid decline as a

prelude to extinction. The significance of the study lies in the fact that it sheds new light on very vital, yet unaddressed issues -- the causes, magnitude and effects of the decline of the Yoruba traditional compound. The study also presents guidelines towards the revitalization of indigenous housing and planning practices in contemporary Yoruba society as a solution to housing problems confronting both rural and urban dwellers in Nigeria.

In an attempt to tackle the problem of the decline of the traditional compound, which is the subject of this thesis, the author was driven towards a multi-disciplinary and holistic approach. The author came across relevant issues and concepts that could be adopted by scholars and development practitioners to tackle habitation and environmental problems in a variety of ways. The significance of this research is, therefore, not limited to the case study. It has been able to build a discourse within the area of environmental studies by highlighting the use of indigenous knowledge as both a theoretical and practical tool in dealing with such problems as those being addressed in this thesis.

In view of the foregoing, this study is not simply a study of houses as an addendum to history, town planning, architecture, urban design, or cultural anthropology, but a more complete study of indigenous housing and settlement planning and how it integrates with emerging trends in modern housing and planning.

The research answers the question as to why the Yoruba traditional compounds were so successful in pre-colonial or pre-modern Yorubaland. Their potentials and prospects; and how both the concept and principles of the compounds could be utilized to promote cheaper and socially-responsive housing delivery while creating a sustainable housing, and the environment it helps to create, in contemporary towns and cities, not only in Yorubaland but in the whole of Nigeria, are also addressed.

1.2 Aims and Objectives

The aims of this research are, first, to investigate the factors responsible for the continued decline, decay and abandonment of the Yoruba traditional compounds (*agbo ile*) and, second, to explore the prospects of continued utilization and adoption of the traditional compounds as a tool to achieving sustainable housing in contemporary Yoruba towns and cities. The ability of the compound to adapt to changing requirements of the occupants including the need for a toilet, bathroom, and distinct kitchen, determines and affirms their relevance to the issue of sustainable housing in the society.

Six objectives are set for this study. They have emerged partly from the situation under investigation and partly from the basic theories underlying this research. The objectives are:

1. To obtain an inventory and spatial distribution of traditional compounds in Iseyin including those compounds currently in use (habitated) and those already ruined;
2. To examine the design of the compounds in terms of spatial organization of the constituent parts, sanitary and infrastructural facilities, as well as materials and methods of construction;
3. To study the physical conditions of the compounds as well as the indigenous ways of maintaining both the compounds and their environment;
4. To establish the causes, magnitude as well as implications of the decay, abandonment and rapid decline of the compounds alongside the present trends in the house types being built in Iseyin;
5. To arouse the interest of scholars and practising urban designers, architects, and planners in developing models of sustainable housing environments that will effectively and appropriately link and harmonize traditional and modern building practices; and
6. To argue for the application of indigenous knowledge towards the revival and continued

adoption of the traditional compound and to present a set of guidelines which will harmonize indigenous housing practices with the modern house design and technology to achieve humane and sustainable housing in contemporary Yoruba society.

1.3 The Scope of the Study and Choice of the Setting

As earlier mentioned, this study examines the traditional compound of the Yoruba of southwestern Nigeria, particularly its fast rate of decline, how it may be resuscitated, and how its principles may be adopted to solve various housing problems in the society. Yorubaland occupies a large area of land in the southwestern part of Nigeria including Lagos, Ogun, Ondo, Osun, Ekiti, and Oyo States as well as the southeastern part of Kwara State (see figs. 5 & 6).

Yoruba traditional settlements exhibit a uniform pattern in their spatial organization, the type of dwellings, and household arrangements. Based on these factors and in order to have a detailed investigation, Iseyin was chosen as a case study for data collection and interpretation. The choice of Iseyin was guided by the fact that it is one of the Yoruba pre-colonial urban centres²³ and one which still substantially exhibits the principal features of Yoruba traditional settlements and their residential units including the living habits of the people. Iseyin provides a more manageable site than larger settlements and contains more elements of modern house designs and technology than other smaller settlements in Yorubaland in which to address the objectives of this study.

Iseyin has also attracted the attention of scholars and researchers, especially cultural anthropologists, textiles and apparel experts, and historians including Lloyd²⁴, Dodwell²⁵, Bray²⁶, Eades²⁷, Wahab²⁸, Phillips and Titilola²⁹, and Wolff and Wahab³⁰. However, those studies concentrated on indigenous organizations, crafts, especially the handwoven textiles

(*aso-oke*), and other occupations of the people of Iseyin. The vernacular architecture and traditional settlement planning in Iseyin has not received any attention from scholars. The closest works done in this regard were those of Azees³¹ on the form and structure of Iseyin, Wahab³² on the pattern of change in Yoruba residential quarters, and Dauda³³ on the implementation of town planning schemes in Iseyin.

Another factor for the choice of Iseyin is that there is a strong agitation currently going on in Nigeria for the creation of a new Oke-Ogun State from the present Oyo State and Iseyin is being favoured to be the capital. Should this happen, a study like this will be invaluable to the physical planning of the town -- a very useful reference in the identification of measures to adopt for effective housing delivery in a new state capital.

Lastly, the need to ensure an unimpeded exercise and the thoroughness which the survey required also dictate the choice of Iseyin, which is the home town of the author. It also facilitates the emic (insider's) approach to research of this type as used frequently and extensively by anthropologists and other social scientists.

1.4 Research Methodology

In order to achieve the objectives of this study, there is a need to obtain both primary and secondary data. The data requires a detailed field survey of the traditional compound and its emerging modern fashion, the opinions of those who built and/or live in the compound, and interviews with the town planning officials who decide what house types should and should not be built in Iseyin. Concentrating on collecting complete data about the Yoruba compound in one area or settlement makes it possible to get to such very minute details such as where laterite/mud used in the construction of a particular compound is obtained. This research adopts the **case study method** of the social sciences.

The author approaches the research from the emic, user, and cognitive ethnoscience view-points. Observations and interviews or conversation and other appropriate ethnographic research tools were used for data collection and analysis. The factors of climate, economy, local knowledge/technology, material availability, durability and functionality; the use of space, cultural practices, social and communal life, and status symbols are examined.

'Ethnoscience' is a set of ethnographic methodologies used to record the knowledge systems for a given community from an emic perspective. As Werner and Schoepfle observe, "no quantitative study can afford to leave implicit its qualitative aspects." ³⁴ In this research, a combination of qualitative and quantitative data is generated in order to fully understand the problem being studied. The ethnoscientific strategies adopted include what Werner and Schoepfle call full "traditional participant observation and substantive statements of cultural knowledge." ³⁵ The concept of ethnoscience is dealt with more in Chapter Two.

Content analysis method (Janis ³⁶; Brislin ³⁷; Holsti ³⁸) is used for relevant existing, already gathered materials such as archival notes/sketches, architectural plans, maps, and processed data. Published works were consulted or examined and utilized as appropriate.

The summary of methodology of this research is as stated below:

1. Collection of primary data through questionnaire preparation and administration. Field work was given due attention in order to, apart from giving contact to reality, provide insight, through observation, regarding cause and effect of the decline of traditional compounds, socio-economic and physical changes in the landscape of the town.
2. Use of secondary materials from literature and archival records.
3. Informal interviews (within and outside Iseyin) with different categories of people in the building industry, inhabitants of both traditional and modern houses, teachers, civil servants, farmers, artisans, architects, town planners, and environmental experts, among

others, about their perception of the traditional compound and the environments of the compound vis-a-viz the modern buildings.

4. Participant observation used as a means to gain emic (insider's) perspectives on the research issues. This method entails visits to every compound (462 of which have collapsed and 246 still intact), and
5. The physical measurement of external and internal dimensions of the elements of the 76 compounds surveyed, that is, 30.9% of the surviving compounds (an average of nine compounds per each of the eight wards in the town). Direct observation is emphasized in order to avoid distortion, incompleteness of facts and to ensure complete familiarity with every part of the research site.

1.4.1 Collection of Primary Data

The first step taken was to conduct a reconnaissance survey of the entire town with a view to identifying the boundaries of each of the eight political and administrative wards into which the town was divided and which were used for data collection and questionnaire administration. Residents, especially the community leaders including the king (the now late Oba Osuolale Wuraola Adeyeri II, the Aseyin of Iseyin), his traditional Chiefs, and Ward Leaders were notified of the survey ahead of time. This aspect is explained in greater detail in Chapter Five under survey administration and data analysis.

1.4.2 Questionnaire Preparation

A four-part questionnaire was prepared and administered on specific aspects of the research (see appendix 1). Part A is in two sections. Section 1 contains forty-four questions

which were administered to Compound Heads or the next, most, elderly member of the compound. Questions range from the age of the compound, who designed it, and compound population, to how construction is financed, and who is responsible for maintenance. Section 2 contains forty-nine items and is devoted to physical characteristics of the compound including materials of construction, housing condition, equipment and facilities, and the compound environment. There are a total of 76 cases and 169 variables arising from the analysis of data obtained in Part A. Questions had to be asked throughout this part in Yoruba, the local language which the respondents understood, and answers were then translated into English. The information collected helped to establish the physical conditions as well as the environmental problems of the compounds.

Part B of the questionnaire contains sixteen questions which were administered to fifteen members of staff (technical and professional) of the Iseyin Local Government Town Planning Department. It seeks information on planning regulations relating to traditional buildings, the number of applications received on mud buildings and modern courtyard houses between 1991 and 1995 including the numbers that were actually built. It also seeks individual views about the current status of the traditional compound in Iseyin. This part of the questionnaire and the oral discussions held with the town planning personnel helped to further establish the causes of the decline of the traditional compound, their potentialities and future prospects as well as the spatial distribution of modern courtyard houses being developed in the town.

Part C of the questionnaire was administered to 27 indigenous builders who specialized in different aspects of the traditional compound construction: walls (*ogiri*), roofs (*orule*), doors (*ilekun*), and windows (*ferese*). Those interviewed included builders (*molemole*, *olomole*, *takotako*), carpenters (*kafinta*, *kanlekanle*) and carvers (*gbegilere*). There were 42 questions and a total of 82 variables which were analysed using the Statistical

Part D contains 26 questions which were administered to 50 members of the public in Ibadan who were spread across professions. They included architects, town planners, civil engineers, journalists, electrical engineers, teachers, students, factory workers, barbers, and chemists. Thirty-eight of them have experienced living in a compound before while 12 have never lived in a compound. At the time of the survey only three of them still lived in the compound. They were asked questions ranging from their familiarity with the traditional compound, why they moved out of the compound, what could make them live in a compound, how they would describe the environment of the compound, and whether or not the traditional compound should be revived.

1.4.3 Sample Selection and Procedure

There is a dearth of housing statistics in Iseyin. The only available housing list, which was the most current at the time of survey, was that prepared by the Primary Health Centre, Iseyin in 1990 for the purpose of house numbering. The Primary Health Centre divided the town into six zones which was more for its own convenience rather than any other justifiable reason. A total of 12,941 buildings were listed at the end of the survey, but the list did not attempt any classification of the buildings into types. It therefore became inappropriate to adopt the list for this research.

The 1991 National Population Census in Nigeria was of no help either, as all documents relating to it were said to be "highly classified and confidential," and "not yet for public use" according to the officials of the National Population Commission covering the Iseyin Local Government area. In view of the above, the author decided to adopt the existing eight political and administrative wards into which the town was divided. The boundaries of

the wards followed some physical features including roads, streams, and rivers. This prevented any overlapping or double counting in the current survey. A direct physical count of traditional compounds, whether they were still intact and being occupied or were already in ruins and abandoned, in each ward was then undertaken. Names of each compound were recorded for the detailed survey and for easy referencing.

The field survey revealed a total of 246 compounds being currently intact in Iseyin. An average of nine compounds that were still intact and occupied were intended to be studied in detail from each of the eight wards. In this case, the selection of the compounds did not represent a systematic random sample because, for instance, a few compounds which were still physically sound and inhabitable were found completely empty -- the occupants having gone to their farms and would not be back until the annual Oro festival (*odun Oro*) which was three months after the survey. This called for the use of sampling by replacement technique³⁹ (which is recognized in social science research literature), the result of which could be representative of the whole scenario because the Yoruba compound, like the settlements in which it is found, possesses common characteristics from design to materials of construction, and to resident composition. The summary of the number of compounds surveyed from each ward is given in Chapter Four under survey administration and data analysis.

1.4.4 Sources of Secondary Data

Relevant technical data and statistical information were also collected from published and unpublished books, journal articles, conference papers, dissertations, newspapers and magazines to supplement the data collected in the field. There was an in-depth literature search in Ibadan, especially the libraries of The Polytechnic, Ibadan, the University of Ibadan, as well as the personal libraries of academic and professional colleagues. The library search

in Nigeria was supplemented by further search in the libraries of the University of Northern Iowa, Cedar Falls, and Iowa State University, Ames, both in the United States during the Autumn (Fall) of 1996 and Spring of 1997 when the author was a visiting scholar at the two institutions. The data base and the internet homepage of the Center for Indigenous Knowledge for Agriculture and Rural Development (CIKARD) at Iowa State University, Ames, provided a very useful source for materials, especially on indigenous knowledge systems. The library of the Faculty of Environmental Studies of the Edinburgh College of Art also served as a major source of references used in this thesis.

1.4.5 Data analysis

Descriptive analysis based on archival materials and participant observation over the past forty years as well as statistical analysis (including discriminant and logistical regression) of primary data collected were undertaken. Variables arising from the empirical investigation were analyzed and cross tabulations drawn between them using SPSS (Statistical Package for Social Sciences) for MS Windows (version 6.1) to determine the significance of relationships. The analysed data are presented in this thesis in the form of frequency tables, percentages, maps and plans. Photographs were also used as an important medium of illustration.

1.5 Limitations of the Study

One of the limitations of the study was the potential problem that some information could have been distorted or lost during the translation of the questionnaires from the English language to the Yoruba language and during the translation of responses (especially those from Compound Heads and indigenous builders) from Yoruba to the English language. The

Yoruba language can be very difficult to translate into the English language which has no equivalents of some Yoruba words. The Yoruba equivalents of some important terms contained within the text of this dissertation are presented in a glossary as appendix 3.

There were important dates, events, people, and places relevant to the information required but which some respondents could no longer remember or not remember very accurately. This was because a majority of the compound residents were illiterate and could not formally record events.

It was difficult to ascertain the proportion of building projects either started or completed out of the number of proposed buildings granted approval by the Iseyin Local Government Town Planning Department (ILGTPD). It was also difficult to assign a numerical value to each category of houses (classified by materials of construction, height, and type of design) available in Iseyin as identified by the ILGTPD. The reason is that the Iseyin Local Government had not funded a complete survey of house types in Iseyin while the enumeration survey done by the National Population Commission for the 1991 census exercise in Nigeria remained classified, inaccessible, and unusable. The ILGTPD, like all the other thirty-three LGPDs in Oyo State, did not have a unit for data collection and storage, making it very difficult for anyone to have answers to simple questions such as the type and number of buildings constructed in the town in a given year. It is heart-warming, however, to note that as a result of this research and the author's efforts, a Neighbourhood Planning and Statistical Unit (NPASU) was created in the ILGTPD in September 1996 headed by a professional planner.

Another important issue worth mentioning has to do with certain encounters during data collection. Some of the compound residents interviewed wanted monetary tips or other gratification for granting the research team the interview. The belief of some of them was that the research was funded and so they should have their own share. Amounts ranging from 50

to 100 naira (equivalent of two pounds) had to be given to some of the respondents. At Akan compound where this author grew up, up to an equivalent of ten pounds was doled out to men and women available in the compound at the time of the survey. Local drinks including palm wine (*emu*) and guinea corn drink (*otika*) and also kolanut (*obi*) and bitter cola (*orogbo*) had to be bought for some people. But for the way the respondents were made to feel important and respected, the interviews perhaps would not have been so successful, especially the physical measurements of the inside of the 76 compounds surveyed. The research team had to socialize with the respondents and more time was spent with many respondents than the pre-tested questionnaire indicated.⁴⁰

Another related experience in the management of the research is during the administration of Part D of the questionnaire meant for professionals. It proves what many researchers and scholars have experienced and documented about questionnaires mailed to and/or filled by respondents. The author visited a few of the fifty respondents at least three times before the two-page questionnaire was filled out and turned back. Except for six of them, all the fifty people in this category volunteered to complete the questionnaire themselves.

In spite of the cost limitations, a desirable result was achieved within the author's limited personal resources. Thus, the description and analysis presented in this study will no doubt serve primarily as a direction for future research in indigenous architecture and settlement planning, and sustainable housing in Nigeria while also serving as a guide to policy formulation.

1.6 Organization of the Thesis

This thesis is divided into six chapters. Chapter One contains the introduction and background to the research, while Chapter Two deals essentially with major concepts and the framework on which the thesis is based. It contains a discourse on the use of indigenous knowledge as both a theoretical and practical tool for tackling habitation and environmental planning and management problems. Chapter Three discusses the geography, climate, and settlement pattern in Yorubaland while Chapter Four presents an historical overview of the courtyard house, the determinants of compound form, and the potentiality and problems of the traditional compound.

The Iseyin research setting, the nature and distribution of traditional compounds, and their environments are treated in Chapter Five. The causes, magnitude and the rate of decay, abandonment and decline of the compound, and the future of the traditional compound are the issues addressed.

Chapter Six contains summary, conclusions and recommendations. The recommendations offered in this thesis are by no means exhaustive, and they are intended to raise other questions for further research. The study gives room for further work by other scholars and researchers in the field.

1.7 Endnotes

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16. Mabogunje, A.L. (1968). Op. cit., p. 226

17. For details about the historical development of Yoruba traditional settlements see Ojo, G.J.A. (1969). "Development of Yoruba Towns in Nigeria." *Ekistics*, 27, No. 161, pp. 243-247.
18. Carroll, K. op. cit., p. 109
19. See Bray's comprehensive work on hand-woven textile industry in Iseyin in J.M. Bray (1968), "The Organization of Traditional Weaving in Iseyin." *Africa*, 38, pp. 270-279, (p. 270). Also, (1974), "The Craft Structure of a Traditional Yoruba Town," In D.W. Dwyer, op. cit., pp. 142-158, (p. 144).
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28. For detail information on the spatial distribution of weavers and their impact on the physical growth and development of Iseyin see Wahab, W.B. (1980). "Economic-Base/Growth of Iseyin - The Home of Aso-Oke." Unpublished Higher Diploma Dissertation, The Polytechnic, Ibadan, Nigeria.
29. On traditional planning practice in Oyo and Ibadan, Nigeria, see Phillips, A. and Tunji Titilola (eds.), (1995). *Indigenous Knowledge Systems and Practices: Case Studies from Nigeria*. Ibadan: Nigerian Institute of Social and Economic Research.
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31. For further reading on the stages of growth and development of Iseyin from colonial period to 1994, see Azees, R.A. (1995). "The Growth and Structural Patterns of Yoruba Towns: Iseyin as a Case Study." Unpublished Professional Diploma Dissertation, Town Planning Department, The Polytechnic, Ibadan, Nigeria.
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34. Werner, O. and G.M. Schoepfle (1987). *Systematic Fieldwork: Foundations of Ethnography and Interviewing Vol. 1*. Newbury Park: Sage Publications, p. 44
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37. Brislin, R.W. (1980). "Oral and Written Materials: Content Analysis and Translation." In H. Triandis and J. Berry (eds.). *Handbook of Cross-cultural Psychology (vol. 2)*. Boston: Allyn and Bacon.
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39. Under the sampling by replacement technique used in this research, if every third compound was to have been surveyed (as in Koso Ward 1 where 8 compounds were surveyed out of the total of 23 compounds existing in the ward) and that third compound was met empty at the time of survey, the next available compound where people were present was surveyed to replace the one that would have originally been surveyed but which was found empty.
40. The questionnaires were pre-tested with the eight field assistants before the actual administration on compound residents. In this way it was possible to discover any ambiguous or confusing questions. The interviewers also became familiar with all the questions, and it was also possible to have a rough estimate of the amount of time required to administer one questionnaire.

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CHAPTER TWO

2.0 CONCEPTS AND LITERATURE REVIEW

This research utilizes **ethnographic** and **ethnoscience** theories to address the issues of the decline of Yoruba compounds, the causes and implications, and the way out of their decline or impending extinction. The concept of normative theory in architecture, discussed later in this chapter, also provides an explanation for the roles of contemporary Nigerian architects on the current shift away from the traditional compound by a growing population of the Yoruba society.

2.1 Ethnoscience a research tool

Ethnoscience is defined by Werner and Schoepfle as "the study of culture through language...If all culture is learned, then language is necessarily part of culture." ¹ The term *ethnoscience* is a set of ethnographic methodologies used to record the knowledge systems for a given community from an emic perspective. According to Werner and Schoepfle:

ethnoscience is a methodology based on a theory of cultural cognition that champions the internal, or the native's view of culture. Ethnoscience is a method in ethnography that attempts maximal control of the ethnocentrism of the ethnographer while exposing (via epistemological windows) the ethnocentric, internal views of the natives. ²

Sturtevant describes *ethnoscience* as "primarily an emic approach...the system of knowledge and cognition typical of a given culture". ³

Ethnoscience first gained popularity among cognitive anthropologists in the early 1960s and refers to the knowledge systems of a community as well as the methodologies for

recording these systems. Werner⁴ refers to *ethnoscience* as the ethnography/ethnology of knowledge or descriptive epistemology. He differentiates ethnographic ethnoscience (cultural knowledge accessible through a language such as classification systems for cultural domains like ethnoanatomy or ethnobotany) from ethnological ethnoscience (theoretical and comparative studies seeking to formulate universal laws of knowledge). *Ethnoscience* focuses on cultural knowledge as a means of explaining cultural behaviour from an emic perspective.

The roots of *ethnoscience* can be traced to anthropologists such as Franz Boas⁵, Bronislaw Malinowski⁶, and Benjamin Whorf⁷ who attempted to understand culture through the insider's perspective, and who explored the interrelationships among language, culture, and cognition (Ervin⁸; Voegelin & Voegelin⁹). *Ethnoscience* was influenced by structural linguists such as Kenneth Pike¹⁰ who coined the terms "emic" and "etic", used by ethnoscientists to refer to the insider's perspective on a culture as opposed to that of the outsider. Ethnoscientists regard culture as a set of rules that a community uses unconsciously to determine appropriate behaviour (Frake¹¹; Hymes¹²).

Ethnoscientists worked through the local language to understand how phenomena were classified. A new lexicon emerged. "Cognitive maps" organized as "taxonomies," "paradigms," and "tree diagrams" were comprised of "lexemes" that could be distinguished semantically through componential analysis of their "semantic attributes," "features," or "components" (Burling¹³; Goodenough¹⁴). One of the many phases during the several decades that ethnoscience has played a role in ethnographic studies focused on the development of a set of methodologies and techniques that allowed the ethnographer to record from an emic perspective various domains (e.g. classification and knowledge of soils, plants, and animals) of knowledge within a community. The number of these ethnographic ethnoscience studies is now enormous and spans the spectrum of topics for which a community defines, categorizes, and classifies phenomena in the social world (such as kinship systems), the

ideational world (such as aesthetic systems), and the natural world (such as botanical and zoological systems) (Frake¹⁵; Spradley¹⁶).

An important, perhaps most recent, phase that has emerged since 1980 is the interest in the role of indigenous knowledge systems¹⁷ in facilitating sustainable approaches to development. Emerging from development or applied anthropology, the term indigenous knowledge was used to differentiate community-based knowledge from their counterpart global systems.

2.2 Theories of Urban Growth and Residential Differentiation

As will be discussed later in this thesis, African cities generally belong to different ethnic groups and there is a long tradition of identifying territory with ethnic groups. In traditional cities the individual was related to the larger unit through the group and these groups were spatially separated, so that they could more easily maintain their identity, religious practices, language, food habits and life-style.

Some of the early theories of urban growth are those of Earnest Burgess's Concentric Zone Theory¹⁸, Homer Hoyt's Sector Theory¹⁹, and the Multiple Nuclei Theory of Harris and Ullman²⁰. Burgess's concentric zone theory focuses on the growth of Chicago. He expresses the view that a city tends to expand outwards along a broad front; each zone growing by gradual colonization of the next outer zone. He calls this process "succession".²¹ Burgess differentiates cities into five major zones as they grow (see fig. 2):

Zone 1: The Central Business District;

Zone 2: The zone of transition comprising areas of residential deterioration due to the increasing encroachment of business and industries from zone 1;

Zone 3: Zone of independent workingmen's homes largely comprising residents of second

generation immigrants into the city;

Zone 4: The zone of better residences -- the neighbourhood of the middle class, the businessmen, professional people, clerks and salesmen, and

Zone 5: The commuters' zone -- a ring of encircling small cities, towns and hamlets which serve as dormitory suburbs for the wealthier city dwellers.

Burgess goes further to identify Zone 6 -- the agricultural district; Zone 7 which includes the hinterland of the city, and Zone 10 -- the sub-urban zone. Burgess assumes a city with a single centre, an heterogenous population and a mixed commercial and an industrial base with great competition for space at the city centre.

In reaction to Burgess's concentric zone theory, Homer Hoyt, in 1939, postulated the sector (axial) theory of city growth. He identified five zones (see fig. 3) which have many of the concentric model's features but which were not, unlike Burgess's, developed on the basis of a single city. Zone 1 is the Central Business District; Zone 2 consists of wholesale and light manufacturing; Zone 3 is the low-class residential; Zone 4 is composed of the middle-class residential while Zone 5 is the high-class residential. Hoyt regarded the main element of city growth as being based on the outer growth of sectors with the highest rent areas of a city tending to be located in one or more sectors of the city.²² He postulated that homes slowly filter down the social scale and individuals filter up the housing scale.

Harris and Ullman developed the Multiple Nuclei theory of urban growth which assumes that land use activities in a city are not focused on a single centre but on multiple centres. They recognised a multi-nucleated city brought about by four factors: the fact that certain activities required specialized facilities; like activities come together; dissimilar or incompatible activities separate, and because some activities are unable to afford

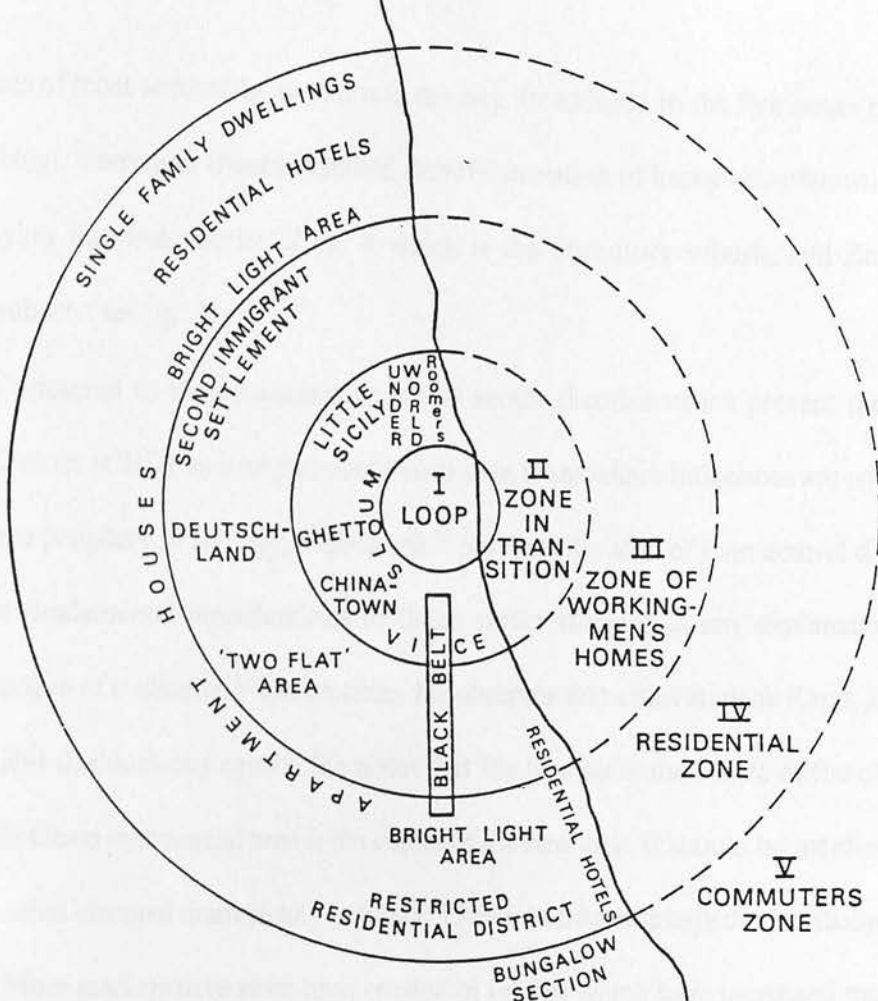


Fig. 2: The Concentric Zonal Pattern of Urban Residential Areas as applied to Chicago modelled by Earnest Burgess, 1924.

Source: Johnston, R. J. (1971). *Urban Residential Patterns*, p. 75

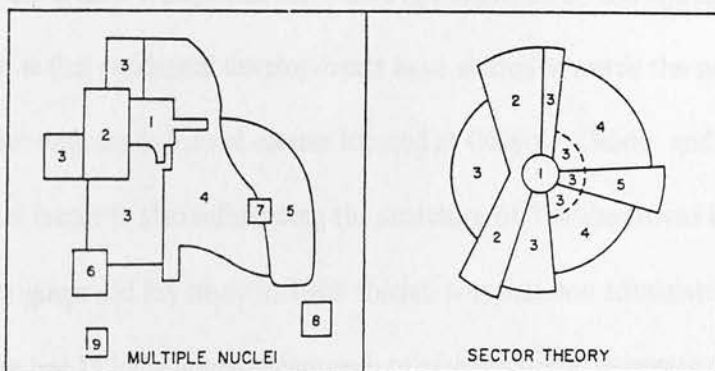


Fig. 3: The Multiple Nuclei and Sector Conceptualisations of urban land use patterns.
 KEY: 1, CBD; 2, Wholesale and Light Manufacturing; 3, Low-class Residential; 4, Middle-class Residential; 5, High-class Residential; 6, Heavy Manufacturing; 7, Outlying Business District; 8, Dormitory Suburb; 9, Industrial Suburb.

Source: Johnston, R. J., op. cit., p. 84

the high rents of most accessible locations in the city. In addition to the five zones presented by Homer Hoyt, Harris and Ulman identified Zone 6 consisting of heavy manufacturing, Zone 7 the outlying business district; Zone 8 which is the dormitory suburb, and Zone 9 the industrial suburb (see fig. 3).

As opposed to the concentric zone and sector theories which present the Central Business District (CBD) as a single, continuous area from where influences are transmitted radially to the periphery of the city, Mabogunje²³ presents the idea of twin central districts as one of the fundamental modifications to those earlier theories in any explanation of the internal structure of traditional Nigerian cities. He observes that cities such as Kano, Zaria and Ibadan exhibit this dual-city centre. He notes that Iba Market is the centre of the old city of Ibadan while Gbagi commercial area is the centre of the new city. It should be mentioned here that the situation changed dramatically between 1968 when Mabogunje did his study and this year 1997. More markets have since been created in Ibadan which have increased the number of centres in the city. For instance, a new Gbagi market has been created along New Ife Road; Dugbe Market has been relocated as Alesinloye Market in Jericho Reservation Area, while Orita-merin Market is now Bodija market.²⁴ One consequence of this situation, as observed by this researcher, is that residential developments have shifted towards the new market areas as it is also the case with the industrial estates located at Oluyole, Olodo, and Bashorun areas of Ibadan. Political factor is also influencing the structure of Yoruba towns in contemporary times. When Mabogunje did his study in 1968 Ibadan was just one administrative unit. As at April 1997, Ibadan has 11 local governments each of which is trying to create new commercial and industrial centres within their areas of jurisdiction.

The modern city is highly differentiated, a differentiation resulting from a complex interplay of forces. Different parts of the city are associated with different populations, with different opportunity structures and with different reputations. Residential differentiation,

which may be seen as a symbol of socio-economic differentiation, involves both the overall structure of society and the decision-making activities of individuals. The physical isolation of differing population seems an inevitable concomitant of "urbanism as a way of life" to employ the term used by Louis Wirth²⁵ in his study of *The Ghetto*. Various areas of the city may be distinguished by the occupations, incomes, level of education, political leanings, number and type of amenities, form and quality of housing, demographic structure, fertility rates, degree of social interactions, size of family, and kinship activities.²⁶

Using Factor Analytical Technique, Timms²⁷ concluded that the plethora of differentiating indicants stated above could be compressed into four underlying constructs or dimensions of urban society relating to differences in socio-economic status, family composition, ethnicity, and mobility. The basic Area Model of Shevky and Bell²⁸ and that of McElrath²⁹ are founded on the fact that differences in social rank, economic status, family status and life-style, migration status (geographical mobility), and ethnicity (minority groups) provide the major axes for the residential differentiation of modern urban population. Berry and Rees³⁰ in their study on Factorial Ecology of Calcutta presented a model on the structure and process of the city's residential pattern based on two major dimensions: socio-economic status, and stage in the life cycle.

In contrast to the socio-cultural factors, some writers in the classical ecological tradition emphasized sub-social factors in residential differentiation. The underlying model as given by Park³¹ is Biological Economics with the central concept that of impersonal competition limited by custom and culture. In his own contribution, Rapoport³² identified three major causes of residential differentiation:

1. the ever-increasing number and complexity of building types;
2. the introduction of planning laws and regulations, and
3. the influence of Western civilization/culture on traditional forms with its over-emphasis on

originality and novelty.

Wahab identifies six dimensions of residential segregation which may be applied to the changing pattern of Yoruba traditional residential environments: "socio-economic status, family status and life cycle, ethnic status, mobility or migration status, colonialism and socio-physical separation of towns, and the impact of European-derived town planning activity." ³³ Mabogunje sees the disintegration of the Yoruba compound as being "growth by fission" created by factors which include the breakdown in the control-mechanism within the extended family system; diverse economic/job opportunities, improved earnings, and both Christianity and Islam.³⁴

2.3 Normative Theory in Architecture

Jon Lang gives a lengthy discussion of the normative theory in architecture which, according to him, "is concerned with descriptions and explanations of the positions that architects and others have taken on what good architecture is; on what attitudes architects should take; and how architectural praxis should be conducted". ³⁵ He goes further to state that the normative positions of architects are, by definition, "value-full" and that "each position consists of deontological statements" some of which do not specify design patterns but rather design objectives. The focus of normative theory, according to Lang, is on the architect and his or her intentions rather than on how the world is experienced by the viewers or users of a building or an urban design. He uses the models of socialization, human personality, and motivations to present the analysis of why architects do what they do. Lang observes that the architect's professional worldview, societal culture, professional culture (which sets a broad image of what an architect should be like but which is often in conflict with the reality of the work situation), their formal education which taught them that certain

designs are good and that others are bad, their attitudes toward people, and attitudes toward technology all combine to shape architects' works. Quoting James Ackerman³⁶, Lang states that "some architects are egotistical [in dealing with aesthetic issues] and others are pragmatists" when dealing with the nature of activities to be provided for in their relationship to their clients. "The pragmatist simply listens to his [and her] client's demands while the egoist relies on his or her own intuitions." ³⁷

From the foregoing discussion certain keywords and concepts can be identified as basic to this study: tradition, culture (which embodies language, meaning, and symbol), sustainability, and indigenous or cultural knowledge -- "knowledge which is embedded in words, in stories, and artifacts, and which is learned from and shared with other humans" ³⁸

Barati, Ujam and Ryan³⁹ observe that language can be treated as analogous to a mirror through which we see the values, ideas and priorities of a given society. While quoting Whorf⁴⁰, they went further to state that language is a carrier of culture, the most reliable tool that aids communication and the transmission of ideas to perpetuate survival. "The linguistic interaction between the generations of a de facto intuitive linguistic community is the most effective means of transmitting the indigenous environmental, architectural, and cultural knowledge through time". ⁴¹

2.4 Tradition and Modernity

A cursory look at the present situation of the Yoruba compounds revealed a serious impact by "modernity." The following paragraphs will look at the dichotomy of "tradition" and "modernity".

The term "tradition" is defined by Webster's New Collegiate Dictionary as "the handing down of information, beliefs, and customs by word of mouth or by example from one generation to another without written instruction; an inherited pattern of thought or action (as a religious doctrine or practice or a social custom); cultural continuity in social attitudes and institutions." ⁴² While referring to Susan Denyer's ⁴³ work, Moughtin⁴⁴ notes that traditional and vernacular are linked to mean a style of architecture peculiar to a specific culture which is transmitted from generation to generation orally. Moughtin goes further to state that the aim of studies of traditional architecture is to discover those lasting qualities of the traditional built environment which can form the basis for future development and serve the needs and aspirations of culture groups.

In its typologies, architecture arises from the logic of precedent: traditional societies have no ready, formulated solutions to the problems of airports, steel mills, office towers. Modernism, likewise, has no precedent way with a mosque or a neighbourhood.⁴⁵

Sorkin's statement above introduces the issue of tradition and modernity. Many works already exist on the dichotomy of "tradition" and "modern" (Asatekin and Balamir⁴⁶, Rapoport⁴⁷, Alhasani⁴⁸, Fathy⁴⁹, Cataldi et al.⁵⁰, Glassie⁵¹, Abu-Lughod⁵², Berman⁵³, Alsayyad⁵⁴, Horowitz⁵⁵, Shah and Rao⁵⁶). Asatekin and Balamir observe that cultural practices have been dichotomized into opposing poles of "tradition" and "modern." They argue that "tradition is equated with that which is ages-old and part of a static past. Traditions are objects of nostalgia and romantic preservation for their ability to remind us of what has been left behind in the march of progress...[while] "modern" includes any historic or contemporary practice." ⁵⁷ In his examination of the role of traditional settlement in the reconstruction of history, Alsayyad observes that "the connection between the identity of a people and the form and culture of its dwellings and settlements may include consideration of family, ethnicity, religion, language and history. All these factors are...identity constituting elements which are

handed down in a process normally referred to as "tradition". " 58

Horowitz also distinguishes between tradition and modernity and gives the indicators of traditionalism as backwardness, religiosity and cultural identification, while modernization has to do with the human transformation of culture and rapid mobilization, class stratification, and urbanization.⁵⁹ Cataldi et al. look at the difference between the two terms from a practical point-of-view. Writing on the changes in building typology in M'zab, Algeria, they observe that:

the replacement of small openings with large windows, the tradition of balconies and corridors inspired by Western models...proved to be more of a symbolic denial of tradition than a response to real dwelling needs. Big windows and balconies were rarely used and were even screened for climatic reasons and to protect occupants from discreet glances. ⁶⁰

The late Hassan Fathy was widely known for his strong support for indigenous/local building techniques and forms. He explains his choice of traditional building forms:

It is important to understand that this search for local forms and their incorporation in the new village [of New Gournia, Egypt to accommodate 900 families] was not prompted by a sentimental desire to keep some souvenir of the old village. My purpose was always to restore the Gournis their heritage of vigorous locally-inspired building tradition, involving the active cooperation of informed clients and skilled craftsmen. ⁶¹

Tradition, as Rapoport observes, has the force of a law honoured by everyone through collective assent. It is thus accepted and obeyed, since respect for tradition gives collective control, which acts as a discipline. However, as Rapoport further observes,⁶² tradition as a regulator of the life of a people including their house form, is fast disappearing due to the following reasons:

- the greater number of building types, many of which are too complex to build in traditional fashion;
- the rise of specialization and differentiation in the building trade;

- the loss of the common shared value system and image of the world and generally a loss of goals shared by designers and the public; and
- the over-emphasis on originality.

Abu-Lughod describes "traditional" as "that portion of the indigenous or local culture that still exists outside international events and influence."⁶³ She goes on to say that the reason we are interested in traditional forms of buildings, dwellings and settlements is that we believe that such achievements meet human needs in a more sensitive way than contemporary and/or alien methods do. Rapoport notes that tradition, particularly if approached analytically and cross-culturally, is a repository of knowledge about human-environment interaction; that we can look at tradition as a major source which needs to be preserved and conserved, and that many traditional relationships to the natural environment are more viable ecologically than many more-modern ones.

Traditional neighbourhoods have many qualities which both in themselves, and in terms of the lessons they can teach, are fully relevant...Their appropriate size...their social qualities -- high levels of perceived homogeneity and the consequences for informal methods of social control and provision of services; their appropriate culturally-specific institutions, their sensory qualities, their grain, their pedestrian character, their energy efficiency, the high efficiency of space use (due to multiple uses over time) and the realization [of] how small spaces can be...all suggest high levels of contemporary validity.⁶⁴

Masood Khan observes that without a recognition of the effect of the past on the present, the modern world can only be traumatic in its impact. But with recognition of the proper role of tradition, it is possible to entertain modes of thinking and practice that mitigate the impact of modernism and channel change in ways that are more conducive to culturally and environmentally wholesome growth and development.⁶⁵ Henry Glassie attempts a comparison of traditional and modern designs and observes that modern Western design results from the exaggeration of certain aspects within the Western vernacular tradition:

namely, the wish for a will free from environmental conditions and a congruent aesthetic of artificiality. True vernacular tradition is based on participation, engagement and an egalitarian political ethic.⁶⁶ However, in her 1995 work on traditional Islamic architecture, Abu-Lughod has this to say:

There has seldom, if ever, been anything identifiable as purely traditional architecture in the sense of a totally indigenous form constructed by an absolutely isolated group of builders...Throughout history architectural forms have migrated -- either along with the migrations of people...or with the reports of travellers who carried goods and ideas from one place to another...In the process of its transmission, changes have been integrated with existent forms, thus "becoming" the transformed "tradition".⁶⁷

There are several instances where traditional building techniques and materials have been combined or integrated with modern techniques and materials to produce functional houses. Many traditional compounds in various parts of Yorubaland have been transformed through plastering of their walls with cement, painting of the walls, and installation of electricity and pipe-borne water where available. Alhasani reports that the Yaama Friday Mosque in Niger built in stages between 1962 and 1982 utilized traditional mud-brick construction techniques and yet ventured into experiments with non-traditional forms. "Its exterior walls and interior columns are of mud-brick; its main roof is composed of wood branches and matting covered with earth; its central dome is a composition of arches made of bundles of sticks bent into shape and covered with mud mortar."⁶⁸

Marcia Southwick notes the current efforts of people in Santa Fe and elsewhere in New Mexico to:

preserve a regional flavor by encouraging the revival of interest in adobe architecture. Some extremely interesting houses have resulted...People have been building mud houses here for several hundred years...a lot of us think that there is nothing prettier than a little sun-drenched, earth-coloured cube of a house or a rambling one story charmer with a private patio behind a high mud wall...I believe that one's house will function only if it is an expression of one's personal taste, needs, and dreams. If you find the traditional pleasing, by all means build this way.⁶⁹

The condition of modernity is described by Marshall Berman in the following words:

To be modern is to find ourselves in an environment that promises adventure, power, joy, growth, transformation of ourselves and the world -- and, at the same time, that threatens to destroy everything that we have, everything we know, everything we are. Modern environments and experiences cut across all boundaries of geography and ethnicity, of class and nationality, of religion and ideology; in this sense, modernity can be said to unite all mankind. But it is a paradoxical unity, a unity of disunity; it pours us all into a maelstrom of perpetual disintegration and renewal, of struggle and contradiction, of ambiguity and anguish. To be modern is to be part of a universe in which, as Marx said, "all that is solid melts into air".⁷⁰

2.5 Culture: its relevance to traditional architecture.

Culture is a system of knowledge (including knowledge about knowledge [metaknowledge]) that explains the social and physical universe and provides action plans and criteria (attributes) for the engagement of further action plans for coping.⁷¹

Defining culture cognitively as knowledge systems, the New Ethnographers (cognitive anthropologists) view culture as a set of rules that a community uses unconsciously to determine appropriate behaviour. Özkan observes that:

the architectural forms and building crafts generated by traditional societies are maintained by various processes which all culminate in some form of memory. Culture is the most general process of continuity which encapsulates the entirety of this information. It is the collective memory of individuals who form a community which maintains the continuity of civilization. Such constituents as folklore, belief and ritual act together to secure this continuity.⁷²

A house, according to Zaccheus Ali⁷³, expresses the culture of the people who use it, the spaces and the relationships they imply. Good architecture responds to the climate, culture, socio-political structures of the society, building materials and the available technology of the period. In his own contribution, Ali Mazrui identifies three types of culture:⁷⁴

1. Cultures of nostalgia. These are revivalist and look for icons of the past, both in architecture and in governance. These cultures are most identity-friendly and at times are so oriented toward tradition that they have no inclination to plan for the future.
2. Cultures of presentism are militantly oriented toward making the full use of present opportunities, even if there is a cost to future generations. These cultures are ecology-reckless, rather than ecology-friendly and often defy both tradition and identity in the built form.
3. Cultures of anticipation attempt a cost-benefit analysis for the future and are most ecology-friendly. There is a commitment in them to bequeath to our grandchildren a physical environment which is no less healthy or beautiful than the environment we inherited from our forefathers.

Herskovits defines culture as "the man-made part of the human environment".⁷⁵ In her contribution to the discussion of the concept of culture, Turgut explains that "culture, in its most expansive meaning, is everything created and produced by man. This includes material-cultural components such as production, communication, technology; and it includes nonmaterial cultural components such as mores, customs, traditions, beliefs and ideals."⁷⁶ In their studies of housing as a reflection of the relation between culture and environment, Irwin Altman and Martin Chemers define culture's role in linking humans and environment by differentiating four basic characteristics and key components of culture. First, culture is based on a set of beliefs and perceptions, values and norms, group or social behaviours, and habits. Here culture includes what people believe to be true of the world, their lives, and the environment. Second, culture involves the commonly shared patterns of knowing, feeling or behaviour of a group; cognitions, feeling and behaviours being shared in a consensual way - a common core of consensus. Third, culture involves the transfer (especially to the children) of these common beliefs, values and forms of behaviour from one generation to another

(through indigenous educational and the socialization process) as a way of preserving the consensus. Fourth, culture appears in objects and is present in the physical environment.⁷⁷ The components of culture under the fourth characteristics may include houses, subdivision layouts, public buildings including the palaces of Yoruba *Obas* and town halls (*gbongan ilu*), the shrines of various Yoruba deities, settlements, and all human-made environments, all of which reflect the values and beliefs of a culture be it "Western culture," "North-South culture," "European culture," "Islamic culture," "Iraqian culture," and "Yoruba culture."

Faozi Ujam discusses the concept of culture as it relates to ecology (cultural ecology) and to architecture. He observes two levels of culture: one is an overt form, often called explicit culture, which is the readily observable regularity in the behaviour of the group; the other is the covert form, often called the implicit culture, which is the set of patterns, rules, or the structure inferred to account for this observed regularity.⁷⁸ Ujam goes further to state that behaviour is a pre-condition of culture; just as the locus or residence of culture can only be in the human individuals from whose behaviour it is inferred or formulated. He examines three fundamental analytical procedures of cultural ecology: one, the analysis of the interrelationship of exploitative or productive technology (material culture) and environment; two, analysis of the behavioural patterns involved in the exploitation of a particular area by means of a particular technology; and third, ascertain the extent to which the behavioural patterns entailed in exploiting the environment affect other aspects of culture.⁷⁹ According to Ujam:

Cultural ecology pays primary attention to those features which empirical analysis shows to be most closely involved in the utilization of environment in culturally prescribed ways...The interaction of physical, biological and cultural features within a unit of territory is the ultimate objective of the concept of cultural ecology...It follows [therefore] that designing for any social group involves an awareness of their physical setting which has largely shaped their customary behaviour, way of living, social context rather than those cultural and acculturative features.⁸⁰

Rapoport elaborately discusses what he calls "culture core," that is, "those elements most important to the group itself (i.e. emically). The cultural core defines a user group profile, a particular life-style and a set of important activities. It is when environments inhibit and make impossible the functioning of the core elements that the group's cultural survival may be threatened".⁸³ Rapoport identifies those variables or domains where core elements may be found: characteristics such as ethnicity, language and religion; family and kinship structures and child-rearing practices; residence patterns, land divisions, landowning and tenure systems; food habits; ritual and symbolic systems; ways of establishing and indicating status and social identity; manners and nonverbal communication; cognitive schemata; privacy, density, and territoriality; home range behaviour and networks; and various institutions such as ways of working, cooperating, and trading.

Turgut's work examines the interaction between normative cultural elements and space in the traditional Turkish house. Turgut considers cultural components as being particularly important in the establishment of house environments when they are transformed over time into social traditions and norms transferable from one generation to the next. Turgut goes further to say that among the cultural components belonging to the house, certain customs, moral and ritual principles, and idealistic rules adopted by a society without cognitive interpretation can thus be considered normative cultural components or normative values.⁸⁴

Ward Goodenough defines culture cognitively as systems of knowledge, stating that a society's culture consists of whatever it is one has to know or believe in order to operate in a manner acceptable to its members. He adds that culture is not material phenomena; it does not consist of things, behaviour or emotions. It is rather an organization of these things. It is the form of things that people have in mind, their models for perceiving, relating, and otherwise interpreting them.⁸⁵

Why study culture or why be concerned with culture? The reason to investigate culture or culture-related issues, as in the case of this research, was well put by D'Andrade: "If one is interested in society, culture needs to be investigated because the way society works is deeply affected by what is learned as the cultural heritage...one can not understand individual humans without understanding their culture." ⁸⁶ Babu and Kuttaiah discuss culture and tradition extensively. According to them:

Tradition is rooted in culture and culture is rooted in place. The customs and practices that are passed from generation to generation are bound in cultural evolution. Culture manifests the ideology, beliefs and values of a civilization, be this political, social, religious/spiritual, philosophical, environmental, ethical, or other...Tradition and culture bind society...Culture is a product/factor of historical development, environmental conditions, natural resources, social evolution, intellectual and spiritual enlightenment, developed in the permanency of a geographic boundary. ⁸⁷

What determines technology's realistic application is its cultural context. Cultural aspects are perceived through goals, values, ethical codes and belief in progress, awareness and creativity. ⁸⁸

From the foregoing discussion it is observed that there is a very strong relationship between traditional architecture, indigenous knowledge or traditional practices, and sustainability. As pointed out earlier in the thesis, cultural diversity is seen as the underpinning of sustainability. However, culture and tradition bind a society, and they both influence the type of house a society builds for itself.

2.6 Indigenous Knowledge Systems (IKS): Principles and Applications.

Moughtin⁸⁹ notes that, the term "indigenous," when applied to architecture refers to a style occurring naturally in an area; not introduced, that is, native. "Knowledge"

is viewed by Scoones and Thompson as "a social process" and "knowledge systems" as "a multiplicity of actors and networks through which certain kinds of technical and social information are communicated and negotiated, and not as single, cohesive structures, stocks or stores." They went further to say that

knowledge emerges as a product of interaction and dialogue between different actors (e.g. 'insiders' (farmers) and 'outsiders' (development agents, extensionists, and researchers) and networks of actors (e.g. resource poor/resource rich, men/women, old/young, and junior/senior staff, etc.), often with competing interests, conflicting allegiances and incomplete knowledge.⁹⁰

The term "Indigenous Knowledge Systems" (IKS) is also referred to as "Indigenous Technical Knowledge" (ITK) (Swift; Howes and Chambers)⁹¹; "Folk Ecology" and "Local Knowledge" (Thrupp)⁹²; "Traditional Knowledge", "Community Environmental Knowledge" (Richards)⁹³; "Traditional Environmental Knowledge" (Johnson)⁹⁴; "Traditional Ecological Knowledge" (Inglis)⁹⁵; "Indigenous Local Knowledge" (Atteh)⁹⁶; "Village Science" (Barker et al.)⁹⁷; "Rural People's Knowledge" (Chambers)⁹⁸; "Ethnobotanical Knowledge Systems" (Alcorn)⁹⁹, and "Traditional Cultural Knowledge" (Morales-Gomez)¹⁰⁰.

Indigenous knowledge systems (IKS), though a relatively new concept, are an important area of human endeavour which have always been part of society. Howes and Chambers¹⁰¹ and Brokensha, Warren and Werner¹⁰² were pioneers in the field of IK and the first set of scholars to use the term "Indigenous Knowledge" in a development context.

IK is a local knowledge that is unique to a locality and culture. It is a knowledge which was evolved, institutionalized and perfected by the people. IK is also the knowledge that people have gained through inheritance from their ancestors. It is part of the people and their development representing a people's creativity, ingenuity, novelty, technology and skill.¹⁰³

Warren and Rajasekaran define IK as:

the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. IK is a local knowledge that is unique to a given culture or society. It is the information base for a society which

facilitates communication and decision-making. IKS form the basis for decision-making, which is operationalized through indigenous organizations, and they provide the foundation for local innovations and experimentation.¹⁰⁴

IKS rest on a validated assumption that a community is guided by those principles and practices which they have developed over many years of experience and have transmitted from generation to generation often through oral tradition.¹⁰⁵ Rural communities in many parts of the world, including Nigeria, have been known for their indigenous and self-reliant strategies in food production, provision of functionally efficient and appropriate shelter, efficient planning and management of settlements, alleviation of ill-health, and protection of the forest and its fragile ecosystem, long before their exposure to European forces. Every member of traditional society -- farmers, rural artisans, folk singers, drummers, hunters, priests, palm-wine tappers, young and old, men and women -- is a custodian of IK, and their knowledge was acquired outside of the formal educational system.

As Warren observes, IKS are localized knowledge systems unique to a particular society or ethnic group, in contrast to the international knowledge system generated through the global network of universities and research centers. Notwithstanding the virtues of indigenous knowledge as an invaluable national resource that can enhance the development process in cost-effective ways, many development practitioners have reacted against indigenous knowledge as an approach moving a community back into an undesirable past. A person who wants to put up a mud building at Orogun, Mokola or even Gbekuba areas of Ibadan, or in Ajegunle area of Lagos, or at Ojude Oba area of Iseyin, would be looked at by many urbanites (who have been negatively influenced by so-called "civilization") as a most primitive person.

The negative values and attitudes about [African] indigenous knowledge systems held by Europeans and some of the Westernized African elite can be linked historically to the writings of nineteenth-century social scientists. Captivated by Darwin's theory of evolution, they adapted it into what became known as Social Darwinism. Humankind was divided into three ideal groups...by the Western

observer...labeled from the simplest to the most complex as the savage...(savage societies being black); the barbaric (the barbaric being red, yellow and brown people), and the civilized...(the civilized being white)...The attitudes generated by these beliefs had a profound effect upon the nature of the educational systems in most [European] colonies, where the emphasis lay on Western knowledge systems, with indigenous systems being relegated to the realm of superstition.¹⁰⁶

The United States National Research Council also had an elaborate discussion on the unfortunate relegation of IKS to nought by development agencies. According to the Council:

Development agencies charged with conserving biodiversity often summarily ignore local knowledge systems when planning conservation programmes for two reasons: first, local knowledge is assumed to be old, static, too difficult to access, too site specific, and too individual, thereby making it difficult to institutionalize; and second, to date, there are few examples of a local knowledge system forming the basis or partial basis for a successful biodiversity conservation project. The assumption that local knowledge is old and static is simply inaccurate. Subsistence farmers, fishermen and those groups that interact with any market system are constantly experimenting and changing their technology in response to the imperative exogenous factors of the marketplace. Local peoples continually test and evaluate new production and management techniques, adding those which they find beneficial and discarding those which are no longer useful.¹⁰⁷

Other studies that trace the negative Euro-American attitude towards IK of non-Western people include Hammond and Jablow¹⁰⁸, Jiggins¹⁰⁹, Slikkerveer¹¹⁰, Thrupp¹¹¹ and McCracken¹¹².

African architecture has been observed to have suffered the same negative attitude and perception by early writers from the West.¹¹³ Moughtin describes the situation succinctly:

The study of African architecture has been retarded by the ethnocentric attitudes of the Western scholars, particularly in the search for a Darwinian evolutionary explanation of architectural developments. This...demotes the glory of African cultures to the bottom rung of the ladder, labelling them primitive. It leads to a limited view of African architecture and a narrow functional evaluation of buildings beneath titles such as "shelter" or "housing", which neither describe nor analyze the process of giving meaning to form. Furthermore, the materials used in construction are described as "mud"; the construction itself as "hut", and its life expectancy as "temporary". Such terms are denigratory and reduce the significance of the objects of study. In so reducing the architectural experience

of African peoples, these ethnocentric studies render it worthless in the view of those responsible for planning and development in third and fourth world countries.¹¹⁴

Paul Oliver lamented the unfortunate neglect of African architecture by early travellers, voyagers, traders, and missionaries who came in contact with the African people.

According to Oliver,

the attitudes and conviction of these early travellers, that the African was an inferior being meant that only the most superficial description of the building materials and methods of construction were noted...they had assimilated these expressions of disinterest and had accepted that the buildings had no merit as architecture or as art.¹¹⁵

Denyer's observation is noteworthy here regarding the relevance of the traditional architecture in the African society.

Their architecture was a personal adaptation of a group solution. The houses erected by a particular society were in a style which had been communally worked out over several generations and consequently were closely tailored to the needs of its people...The fact that the originators cannot be named does not make them any less valid as architecture. They are a society's solution to its habitation problems...Today more and more architects are turning to vernacular architecture for inspiration, not because they wish to repeat the structures they find -- the social order, materials and technology they have to deal with are quite different -- but because it is recognized that these structures obviously satisfied their communities' psychological needs far better than most modern suburban settlements do.¹¹⁶

2.6.1 Characteristics of IK

Titilola et al. explain that indigenous knowledge possesses the following characteristics: it is unique to a group of people; serves as a springboard to technological development; dynamic rather than static; holistic and culturally bound; oral (not formally documented); experiential; and highly accessible. Other characteristics of local knowledge as noted by Richards¹¹⁷, Dei¹¹⁸, and Chambers et al.¹¹⁹ are that: local knowledge is not only possessed and practiced by men but also by women; the type, extent and distribution of

valuable local knowledge is not uniformly observed in the less developed countries; local knowledge is couched in a broader socio-economic and political context, that is, influenced by the dominant Western culture and market economy; it is increasingly regarded as an "intangible resource" which is highly vulnerable to (commercial) exploitation; indigenous knowledge is of great relevance to all cultures especially in the developing world and the traditional societies; it enhances the socio-psychological value of a people, and it promotes meaningful communication between extension agents and their clientele.

2.6.2 Relevance and Scope of Indigenous Knowledge

Indigenous knowledge is very relevant to all human activities as it promotes the full and active participation of local people in all ramifications of their own affairs. As a science, IK is capable of being integrated into modern sciences. It is often resource conserving, environmentally friendly, and a ready tool for the attainment of self-reliance and sustainability. Local knowledge is also tested and accepted, and easily adaptable. IK can help people to learn how to live in harmony with nature and the entire human settlement.

Indigenous knowledge has a very wide scope covering the whole spectrum of the physical/natural, social, cultural and political environments. It is universally encompassing and covers the full range of disciplines and issues. IK features prominently in almost all areas of human endeavours including agriculture, settlement planning, architecture, trade and commerce, savings and credit, transportation, health and diseases, education and training, natural resources, politics, public administration, and law.¹²⁰

In recent times, IKS as a prime part of culture have come to play an important role in the international debate on cultural policy and development planning. UNESCO, the supranational advocate of humanizing the economic development process, introduced in the

1970s, through the Regional UNESCO/OAU Conference in Accra (AFRICULT), the key concept of cultural identity which marked a striking feature of contemporary history in Africa and elsewhere in the developing world. This concept helped to encourage endogenous development. The ensuing global discussions on the relationships between economic, social and cultural development have gradually emphasized the rediscovery of the concept of culture which goes beyond arts and literature to encompass a whole complex of distinctive material, non-material, and emotional characteristics of a society or group based on systems of knowledge, technology, values, traditions and beliefs. The cultural dimension of development has now become a key concept for the international development strategy for the concluding part of the twentieth century as deeply acknowledged by several international organizations such as the United Nations Development Programme, Food and Agriculture Organization, the United Nations Educational and Scientific Organization, the World Health Organization, the United Nations Children's Fund, the Economic Commission for Africa, the Economic Commission for Latin America and the Caribbean, and the International Monetary Fund among others.¹²¹

2.6.3 Applications of IKS

A growing body of literature now exists on various applications of IK. Titilola¹²² analyzed the costs and benefits of adding IK components to agricultural development projects; Norem, Yoder and Martin¹²³ on the role of IKS in gender analysis; Warren¹²⁴ in the extension process; and Warren¹²⁵ in facilitating participatory approaches to development. Atteh¹²⁶ provides a thorough survey of African knowledge of soils, vegetation, climate, crop pests, veterinary medicine, and indigenous engineering skills. Michael McCall's¹²⁷ *Indigenous Technical Knowledge in Farming Systems of Eastern Africa: A Bibliography*

includes hundreds of citations of studies of indigenous knowledge dealing with farming systems, livestock systems, agricultural land use, pest and disease management, soil and water management, land tenure, veterinary medicine, agroforestry and management of forests and woodlands, and pastoral systems. The Intermediate Technology Publications in London has turned out six books to date through its Intermediate Technology Studies in IK and Development book series. The first volume in the series, *The Cultural Dimension of Development* edited by Warren, Slikkerveer and Brokensha¹²⁸, contains numerous papers and case studies on anthropology, geography, agronomy, plant pathology, soil science, entomology, rural sociology, agricultural extension, agricultural physics, library science, agricultural education, forestry, agroecology, linguistics, botany, veterinary medicine, fisheries science, range management, and natural resource management. A subsequent volume, *Indigenous Organizations and Development* edited by Blunt and Warren¹²⁹, contains case studies of the role of indigenous organizations in the socio-economic and physical development of African communities. The *Indigenous Knowledge and Development Monitor* has, over the last five years published numerous papers on IK issues. UNESCO's quarterly journal, *Nature and Resources*, has published materials on IK (especially Vol. 30, Nos. 1 and 2, 1994) in the areas of natural resources utilization, conservation and sustainability. The International Development Research Centre (IDRC) in Canada publishes the quarterly *IDRC Reports*. Its Vol. 21, No. 1 in 1993 was devoted to *Indigenous and Traditional Knowledge*.

It is sad to note, however, that issues of traditional architecture and settlement planning have not yet been featured in the existing references on IK. The University of Edinburgh's short courses on Indigenous Technical Knowledge (such as those of June - September 1997) have been on tropical agriculture and agroforestry. This is a serious gap which requires very strong and urgent attention by the 33 established IK Resource Centers all over the globe¹³⁰ (see fig. 4). It is hoped that urban designers, town planners and architects

includes hundreds of citations of studies of indigenous knowledge dealing with farming systems, livestock systems, agricultural land use, pest and disease management, soil and water management, land tenure, veterinary medicine, agroforestry and management of forests and woodlands, and pastoral systems. The Intermediate Technology Publications in London has turned out six books to date through its Intermediate Technology Studies in IK and Development book series. The first volume in the series, *The Cultural Dimension of Development* edited by Warren, Slikkerveer and Brokensha¹²⁸, contains numerous papers and case studies on anthropology, geography, agronomy, plant pathology, soil science, entomology, rural sociology, agricultural extension, agricultural physics, library science, agricultural education, forestry, agroecology, linguistics, botany, veterinary medicine, fisheries science, range management, and natural resource management. A subsequent volume, *Indigenous Organizations and Development* edited by Blunt and Warren¹²⁹, contains case studies of the role of indigenous organizations in the socio-economic and physical development of African communities. The *Indigenous Knowledge and Development Monitor* has, over the last five years published numerous papers on IK issues. UNESCO's quarterly journal, *Nature and Resources*, has published materials on IK (especially Vol. 30, Nos. 1 and 2, 1994) in the areas of natural resources utilization, conservation and sustainability. The International Development Research Centre (IDRC) in Canada publishes the quarterly *IDRC Reports*. Its Vol. 21, No. 1 in 1993 was devoted to *Indigenous and Traditional Knowledge*.

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will join the existing vanguard of IK practitioners and endeavour to document and disseminate works on various aspects of indigenous settlement planning and habitations. The intention of this research is to publish the findings with the hope that scholars and researchers in IK and those in the International Association for the Study of Traditional Environment (IASTE) will be motivated to examine the decline and related issues of traditional architecture in various parts of the world.

The use of indigenous knowledge has been demonstrated to be an effective base for sustainable approaches to development. For example, the World Health Organization has supported the inclusion of traditional medical practitioners and their indigenous medical knowledge in the health care delivery systems of many developing nations as the most effective way of addressing the particular socio-economic needs of indigenous populations.¹³¹ Inglis informs us that "the World Health Organization (WHO) recently concluded that 80% of the world's population depends on traditional medicine, herbal remedies and medicinal plants."¹³² Indigenous knowledge has become an issue of global discourse during the last decade, and it is gaining more and more attention by development practitioners as well as by international development agencies who have previously viewed it as a hindrance to development. The current interest shown indigenous knowledge and practices arose from the fact that they "emanate from the cultural context of the people concerned and also evolve in close contact with the specific environmental conditions, and are based on traditional societies' intimate knowledge of their environment."¹³³

In 1992, the Earth Summit in Rio de Janeiro formally recognized the importance of IK for sustainable development. At least 17 chapters of the Summit's Agenda 21 mention IK, acknowledging that local people have intrinsic knowledge of their environment, warning that IK is being lost, and strongly recommending that development efforts build on IK.

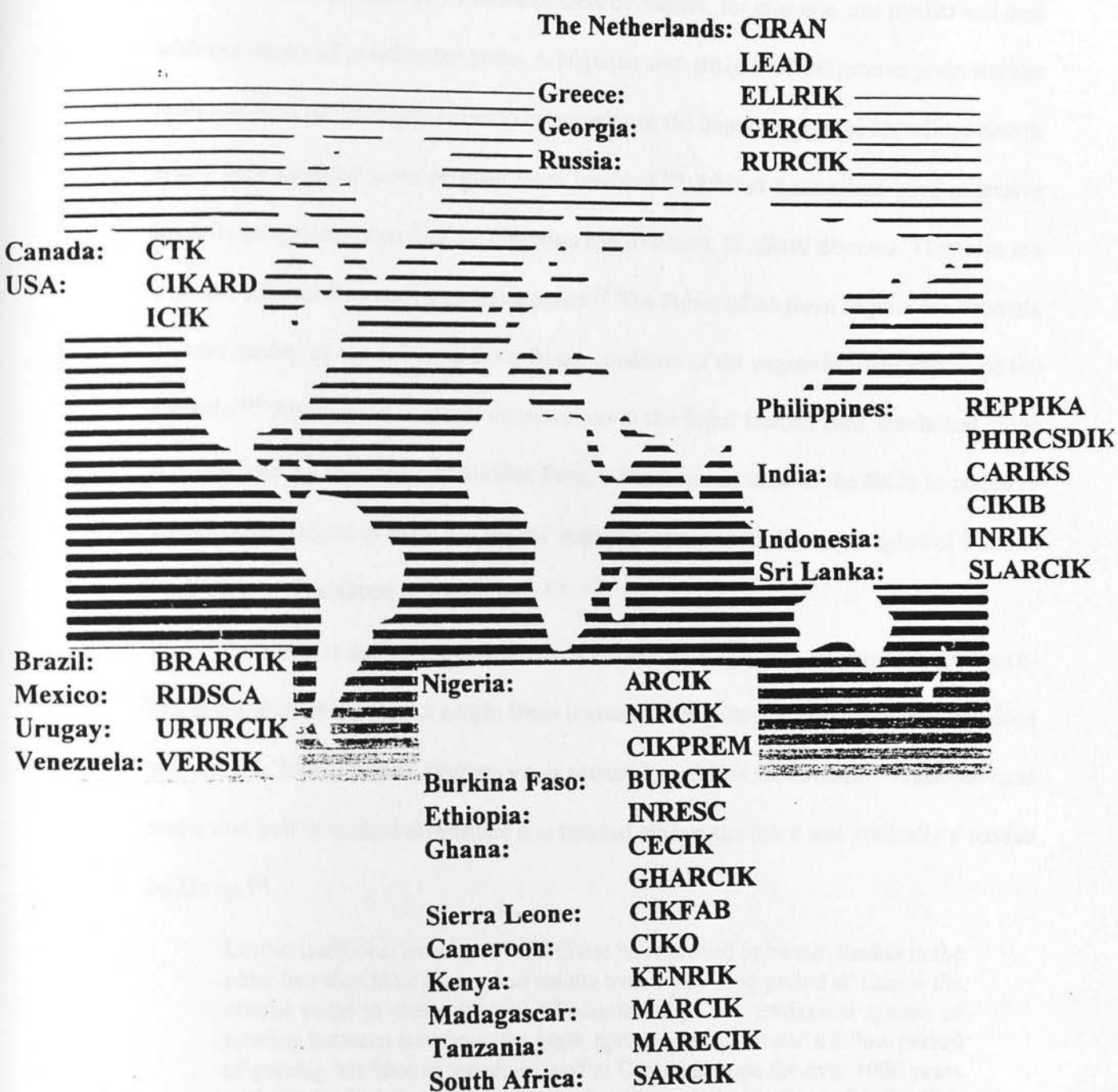


Fig. 4: Indigenous Knowledge Global Resource Centres as at April, 1997.

Source: Centre for Indigenous Knowledge for Agriculture and Rural Development (CIKARD), Iowa State University, Ames, Iowa, USA.

In many African societies, religious taboos ensure that certain trees are preserved or used for limited purposes. The Yoruba farmers of Nigeria, for example, can predict and deal with outbreaks of grasshopper pests. A Nigerian cost analysis of indigenous grain storage methods found the local approaches to be superior to the imported storage containers except when very large amounts of grain were involved.¹³⁴ African pastoralists have extensive knowledge systems regarding the diagnosis and treatment of animal diseases. They also are experts on forage flora and range management.¹³⁵ The Fulani of northern Nigeria can estimate pasture quality by the soil type, flora, fauna, condition of the vegetation, and impact on the animals.¹³⁶ Approaches to water conservation in the Sahel include rock bunds and stone terraces used by the Mossi of Burkina Faso, a basin system used in the fields to conserve rainfall by the Dogon of Mali, and the *zay* system common in the Yatenga region of Burkina Faso used to rehabilitate degraded soils.¹³⁷

Indigenous soil conservation techniques can be simple and effective. In the Keiyo-Marakwet district in Kenya a simple fence is erected along the contour line across the slope and a shrub, locally known as *angurwa*, is planted to stabilize the structure. When the rains come and soil is washed downslope it is trapped against the fence and gradually a terrace builds up.¹³⁸

Certain traditional techniques of land use have proved to be sustainable in the sense that they have given good results over a very long period of time -- the crucial point in every concept of sustainability. The traditional system of rotating between autumn-sown grain, spring-sown grain and a fallow period of grazing has been successfully used in Central Europe for over 1000 years without leading to any apparent exhaustion or destruction of soils. The sophisticated irrigation schemes of Bali, which were based on an elaborate system of managing water resources have been in operation for centuries and always for rice-growing.¹³⁹

Thiele and Devaux cited the instance where farmers in Bolivia spread leaves from eucalyptus trees on the top of their stored potatoes to repel potato tuber moth, and also

combine eucalyptus and the native *muna* leaves to reduce the Andean potato weevil population when potatoes are stored in pits.¹⁴⁰

Radcliffe et al.¹⁴¹ reported an entomological study of the efficacy of neem seed (*eso igi dongoyaro*) extract as a biopesticide against locusts and grasshoppers in the Sahel. The National Research Council in the United States¹⁹⁹² released a publication titled *Neem: A Tree for Solving Global Problems*. The United States Agency for International Development (USAID)-funded project developed, in 1987, neem solution and used it as a crop protectant -- very cheap and sustainable in its production as well as application. Nigerian farmers were producing natural insecticide from the same neem tree seeds for years back.

Yoruba traditional settlement planning involved such aspects of sanitation as siting of refuse dumps (*akitan*), construction of drainage ditches (*oju agbara*) and control of epidemics (*ajakale arun*).¹⁴² The Yoruba concept of *imototo* (cleanliness, proper sanitary behaviour) is at the heart of sanitary behaviour, and ultimately of well-being and physical health (*alaafia, ilera*), both personal and environmental. Yoruba indigenous knowledge has been shown to be an essential element in health care delivery, through the inclusion of traditional medical practitioners in biomedical practice and health education, as well as pharmacological studies of indigenous medicines. Green¹⁴³ provides several instances where trial programmes have been carried out in recent years in Ghana, Swaziland, South Africa and Nigeria that demonstrate the utility and cost-effectiveness of working with indigenous healers in primary health care, family planning, and treatment of STDs and AIDS cases.

The laterite mud floor of *agbo ile* was usually treated to a smooth finish with *boto/igboleaja* which is composed of a mixture of several kinds of leaves (*ewe*) and animal manures (*igbe eran*) which, once dry, becomes odourless. Leaves used include *asunwon* (*Senna alata/Cassia alata*), *ewuro ijebu* (*Solanum erianthum*), *rere* (*Cassia occidentalis*), and *elu* (West African indigo -- *Lonchocarpus cyanescens*). The leaves are mixed with the dung

of cows (*malu*), goats (*ewure*) and horses (*esin*). The mixture was known for and still found to especially repel *jiga* (jigger, chigger or *Tunga penetrans*), *idun* (bedbug or *Cimicidae*), and *aitale/itale* (*Formicidae*, a type of maggot that infests household mats) while acting as a repellent and an insecticide.

2.6.4 Limitations of IKS

The richness of IKS as a resource to solve biodiversity and habitation problems should not mean that we should ignore its limitations. Several emic and etic views of comparative strengths and weaknesses of IKS have been expressed by scholars, development practitioners, and local persons in recent years. Indigenous knowledge and practices are very dynamic; the indigenous experimentation that goes on constantly in local communities reflects this dynamism. While explaining Traditional Environmental Knowledge, Johnson emphasized the dynamic nature of the knowledge which "is cumulative and dynamic, building upon the experience of earlier generations and adapting to new technological and socioeconomic changes of the present".¹⁴⁴

Green presents some of the limitations of traditional health practices as put forward by those against collaboration between traditional healers and biomedical health practitioners.

Some traditional practices appear harmful, e.g., giving enemas for children's diarrhea; drinking urine or rubbing urine in eyes for conjunctivitis; douching with bleach for contraception; discarding the colostrum in the belief that it is dirty; or making incisions with unsterilized razors...Traditional medical thinking and behaviour holds little or no place for fallibility. Healers must project and protect their image of omnipotence and therefore make exaggerated and unrealistic claims. They seldom admit failure or an inability to understand or treat any problem. Dosages of herbal medicines are seldom standardized. Such medicines may be of widely varying potencies due to differences in storage and other factors.¹⁴⁵

Thrupp acknowledges that there were constraints and problems with indigenous

people's knowledge and practices and warned against romanticized or idealistic views of local knowledge and traditional societies.

Historical and anthropological evidence suggest that even ancient indigenous populations who practiced swidden agriculture -- such as the Mayans in Mesoamerica and Incas of ancient Peru -- were not always in balance with their natural environments in ideal sustainable conditions. In fact, even though many early societies had a basis of functional indigenous knowledge, the peasantry in that era (as in present times) often were impoverished, suffered from debilitating diseases and climatic extremes, and also had problems from severe soil erosion and resource degradation...Similar to modern times, the causes of early environmental degradation included inequitable land tenure systems and political-economic pressures. The recognition of such realities challenges idealistic (and false) views by authors who romantically envision the past in a Luddite manner...In modern times, it has become increasingly rare to find groups or tribes which are completely isolated or cut off from the market economy and from Western culture. Tradition-based insights thus become modified and mixed with external ideas and technologies, as the nature of socio-economic and technical conditions are transformed. ¹⁴⁶

Writing on the danger of romanticizing indigenous knowledge, Johannes observes that "the romantic and espousal of traditional environmental knowledge and management is an extreme almost as unfortunate as that of dismissing it. Traditional peoples have not lived in some preternatural state of harmony with nature. Some of their abuses of natural resources have been, and remain, substantial." ¹⁴⁷

Arun Agrawal's article, *"Indigenous and Scientific Knowledge: Some Critical Comments,"* ¹⁴⁸ provided a platform for a published debate on the "dichotomy" of 'Indigenous' and 'Western Knowledge' and the all-problem-solving attribute of IK. His article generated numerous reactions by scholars (including Heyd, Showers, Serrano, Hooft, Hess, Haverkort, Brokensha, Shankar, and Warren) published in volume 4(1 and 2) of the 1994 issues of the *Indigenous Knowledge and Development Monitor*. While examining the differences between indigenous and scientific knowledge, Alexander and Dijik observe that "indigenous knowledge is the antipode of scientific knowledge. Previous work, which has centered on the complimentary nature of knowledge systems (Richards, 1985), approaches

to linking them up, (Chambers, 1997), and studies focusing on their social interfaces (Long, 1989) have occasionally tended to reinforce this notion of differentness." ¹⁴⁹

The main thrusts of Agrawal's argument were that:

1. Distinguishing 'indigenous' and 'Western' as two types of knowledge is not only potentially ridiculous, but also counterproductive for those who believe that indigenous knowledge has a contribution to make to sustainable development. In opposition to what other scholars have written, Agrawal insisted that there is no difference between the two forms of knowledge on substantive, methodological and epistemological, and contextual grounds.
2. There is actually nothing new about the rhetoric and practice of indigenous knowledge.
- 3.. The strategy of achieving and disseminating indigenous knowledge runs counter to the very concept of indigenous knowledge.
- 4.. *In situ* preservation of indigenous knowledge may make knowledge more costly for those outsiders who wish to gain access to it for free dissemination.
- 5.. *Ex situ* preservation of indigenous knowledge is likely to fail -- creating only a mausoleum for knowledge.

Agrawal quoted Levi-Strauss's suggestions that "primitive people are less prone than scientific investigators to analytic reasoning, that might question the foundations of their knowledge; and 'primitive' thought systems are more closed than scientific modes of thought." ¹⁵⁰

The summary of reactions to Agrawal's opinion include that of Warren that "indigenous knowledge systems are not inferior to the global systems, they have just been generally unavailable".¹⁵¹ Economic necessity, local traditions and cultural continuity will

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The summary of reactions to Agrawal's opinion include that of Warren that "indigenous knowledge systems are not inferior to the global systems, they have just been generally unavailable".¹⁵¹ Economic necessity, local traditions and cultural continuity will

make IK more relevant in the future. "Indigenous information systems are dynamic, and are continually influenced by internal creativity and experimentation as well as by contact with external systems".¹⁵²

In his contribution to the causes of failure of traditional systems, Zwahlen observed that sometimes it is a change in the institutional setting that leads to situations where traditional methods and practices become no longer applicable. For instance, "when the state took over ownership of tanks (small reservoirs) for harvesting fish from local communities in Sri Lanka, the traditional, community-based management structures were no longer effective for organizing either the fishing itself or the vital maintenance and repair of tanks, bunds etc." ¹⁵³

The observed limitations of IK notwithstanding, it is imperative for contemporary society to do all things possible to preserve and revive IK practices. Traditional knowledge and practices are disappearing at an alarming rate, just as is the case with languages. Traditional knowledge, just like the global scientific knowledge or information, can be applied only if and when it is available. As Zwahlen warned:

we should not conserve traditional knowledge simply so that traditional knowledge will always be applied. Instead, we should document these methods so as to build a broader basis from which we can choose -- so that we can assess all the knowledge available from every source and then pick what is best suited to the case at hand. Most often the best choice will be a combination of traditional and new methods -- a combination that is specific to a particular site, culture and project. ¹⁵⁴

Regardless of limitations of IK, "There is much to be learned from the indigenous knowledge systems of local people. If we are to move towards interactive technology approach, it is feasible, efficient, and cost-effective to learn from the village-level experts".¹⁵⁵ Rather than just dismissing local people's knowledge in whatever area including settlement planning and architecture, it may be necessary, as Warren and Rajasekaran advocated, "for academically well-trained and research-minded personnel to validate [the local people's

practices in these spheres of human endeavours] through a process of understanding the rationale behind, for example, farmer experimentation, the mode of conducting the experiments and farmers' evaluation criteria".¹⁵⁶ Indigenous knowledge appears timeless and capable of being adopted at any period, with appropriate modifications, to solve varying problems, including housing and settlement planning, in any given society. In the words of Charbonneau:

Indigenous peoples are the original practitioners of sustainable development, applying time-tested practices to establish an ecological balance with their environments. Exchanges between indigenous peoples and Western knowledge systems can be mutually beneficial. Virtually every scientific and social discipline can find valuable insights in the centuries-old knowledge base of indigenous peoples. Similarly, indigenous peoples are more than ready to discover what is useful in the West and apply it to their own needs. The two-way flow of knowledge can only strengthen our mutual capacities to inch closer to sustainable and equitable development.¹⁵⁷

2.7 Sustainability: Principles and Applications

The United Nations Conference on Environment and Development (UNCED), produced the Rio de Janeiro Declaration, Agenda 21, and the Convention on Biodiversity, which accorded great significance to indigenous and local peoples around the world especially on the issue of sustainable development which is now a global concern. For example, Principle 22 of the Rio Declaration states that:

Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.¹⁵⁸

The idea of sustainability, according to Redclift¹⁵⁹, is derived from science. It is used to carry moral, human, imperatives, but at the same time acquires legitimacy from identifying biospheric "imperatives" beyond human societies. Married to the idea of development, as Redclift further stated, sustainability represents the high-water mark of the modernist tradition. He describes sustainable development as a methodology, as well as a normative goal, a model for planning, a strategy involving purposeful management of the environment.¹⁶⁰ Redclift proposes that "sustainable development has proved useful as a concept, precisely because it combines the idea of prescriptive action, with that of enduring, defensible properties, located in scientific principles".¹⁶¹

Sustainability within the context of environment, natural resources, biodiversity, planning policy, health, and architecture, has become a global issue. The concern traces its root to the United Nations World Commission on Environment and Development (WCED), otherwise called the Brundtland Commission, which was established in 1983 by the UN General Assembly to formulate a global agenda for change. The Commission defined "sustainability" as "the rearrangement of technological, scientific, environmental, economic and social resources in such a way that the resulting heterogeneous system can be maintained in a state of temporal and spatial equilibrium".¹⁶² The WCED defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".¹⁶³ The World Commission goes further to state that:

Humanity has the ability to make development sustainable -- to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits -- not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities...Sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs.¹⁶⁴

The 1992 Earth Summit reinvigorated the concept of sustainability by expanding it to include development, natural environment, and the design of human settlement. Chapter 7 of the Summit Report (UN 1993:70-94) adequately addressed the issue of promoting sustainable human settlement development. The Summit recommended specific initiatives to address, among other things, the establishment and strengthening of indigenous building materials industry, use of local building materials and studying individual sources, providing incentives to promote traditional building techniques based on regional resources and self-help strategies, reusing building materials and promoting appropriate technology including the use of labour-intensive construction and maintenance technologies, and restructuring credit institutions to enfranchise the poor.¹⁶⁵

The issue of sustainability has attracted global attention in recent years to the extent that in the last decade sustainable development has featured in almost every international conference and workshop. One reason for its increasing popularity is, according to James Steele, "its ability to span the previously treacherous divide between development and environmental protection."¹⁶⁶ Part of the motivation of this research in looking at the issue of sustainable housing in Yorubaland can be expressed in the words of Steele: "The doctrine of sustainability has had a major impact on those involved in designing human settlements, and it has highlighted the success of traditional societies in striking a balance between human activities and nature."¹⁶⁷ Steele goes further to say that "architects have been particularly affected by the doctrine of sustainability, and in their present effort to develop models of sustainable communities, they have begun searching for examples of practitioners who have been able to bridge the gap between the modern world and traditional building practices".¹⁶⁸

The concept of sustainability initially appeared during the 1970s and early 1980s through the writings of scholars and researchers at the Worldwatch Institute. Most of the

early theorists of sustainability emphasized that there could be no viable international economic order if the natural biological systems that underpin the global economy are not preserved. According to Brohman, four development areas were particularly problematic from the point of view of sustainability: (i) lagging energy transition, (ii) the destruction of major biological systems, (iii) the threat of major climatic change, and (iv) rising global food insecurity.¹⁶⁹

Many publications have appeared in recent times that address the concept of sustainability from varied perspectives -- ecology, econoforestry, political economics and political ecology, agricultural economics, and environmental management -- and with several definitions. According to Brohman:

Much of the knowledge people outside of mainstream science possess, especially among traditional Third World Societies, is encoded in customs, rituals, values and beliefs linked to the cultural practices of everyday life. Understanding this cultural realm is crucial to comprehending the ways that different people use environmental knowledge, with obvious implications for sustainable development. Becoming aware of local people's environmental knowledge is important to permit sustainable development initiatives not only to devise more appropriate means of avoiding environmentally destructive practices, but also to make better use of vast local expertise. It should be acknowledged that, especially in rural areas, local people are often 'experts' about their environments and that any attempt to foster sustainable development without their active participation is unlikely to succeed.¹⁷⁰

Brenda Vale and Robert Vale examine the role of urban design under the new aegis of sustainability. They define sustainability as being "the ability to satisfy changing needs without wholesale redevelopment".¹⁷¹ They identify some of the approaches to a sustainable urban environment including the need for compact cities, the desire for a new approach to urban design, such as pedestrian pockets of Calthorpe, to attempts to find new technical fixes to existing problems in urban areas, such as those created by increasing traffic. Vale and Vale note further that it is the ability of the urban fabric footprint to adapt to changing needs of

society that is of relevance to sustainability, not the reuse of the materials from which the particular urban fabric is made.¹⁷²

Hatcher presents sustainability indicators from a local community perspective, using local-to-global concepts. According to him, "community-specific indicators provide perspectives and concepts to individuals who can then make personal choices in their lives and jobs, and help citizens comprehend how their community works and what changes would be most effective for the development of sustainability".¹⁷³ Hatcher goes further to present a list of the characteristics of a good sustainability indicator: (1) it consistently reflects the status of a significant and fundamental characteristic; (2) it is understood and accepted by the community; (3) it is statistically and practically measurable, yielding defensible data backed by clear logic; (4) it is clear, understandable links to other indicators; and (5) it represents or directly relates to important community values.¹⁷⁴

Kakonge identifies four categories of traditional approaches used in various parts of Africa for the implementation of Agenda 21: traditional planning approaches; traditional environmental techniques; traditional management practices; and traditional sustainable environmental awareness practices. He argues that "efforts to achieve the promotion of sustainable development within the framework of Agenda 21 should be based on reexamining and applying indigenous knowledge and techniques, as opposed to the wholesale importation of Westernized methods and ideas."¹⁷⁵ However, he goes on to say that "the aim should be to attain optimum combination of the best practices from traditional and modern knowledge."¹⁷⁶ In a similar contribution, Kwaku Osei-Hwedi observes that the "application of IK supports a service provision mechanism that is in line with a social strategy approach...that advocates popular participation, human development, and social integration".¹⁷⁷ Ulluwishewa emphasized that

the use of IK facilitates beneficiary participation; allows for the integration of traditional knowledge with scientific knowledge to create appropriate technologies necessary for sustainable development and bridges the communication gap between service practitioners and the majority of beneficiaries in the way people perceive their environment, their problems, opportunities and resources, and themselves".¹⁷⁸

The relevance of culture to sustainable development was examined by Redclift and Sage.¹⁷⁹ They observe that features of sustainability, such as the preservation of biodiversity, cannot be strengthened without preserving the cultural diversity on which they depend. Culture not only represents the prism through which we view nature, it also represents an essential part of our natural capital stock. Cultural diversity is thus seen as the underpinning of sustainability

What we term sustainability was a reality inherent in many preindustrial cultures. It was usually built into their beliefs, their practices, and the design of their environment. Sustainability is inherent in what earlier people -- and many today -- hold sacred, and yet, it has been dismissed, ignored, and desecrated by the idea of progress...The continuity of a culture is carried in its architecture, urban design, and planning..¹⁸⁰

2.8 The House: Its Significance and Typology

No part of man's environment affects his health and well-being more directly than the house in which he seeks shelter, security, comfort and dignity. The home environment helps shape his life and attitudes; it creates the setting in which he is educated, marries, raises children and associates with his fellow men. The home represents what a man believes in, what he will protect. It influences his sense of civic and communal responsibility and relates him to his physical surroundings and to the history and culture of his community.¹⁸¹

2.8.1 Significance of Housing

The above assertion by the United Nations best describes the significance of housing in the life of people and nations. Housing means everything to human beings; the place of housing in the overall well-being of individuals, families and nations can, therefore, not be over-emphasized. According to Poju Onibokun, housing, as a unit of environment has a profound influence on the health, efficiency, social behaviour, satisfaction and general

welfare of the community. It reflects the cultural, social and economic values of a society as it is the best physical and historical evidence of civilization in a country.¹⁸² It is housing that gives human beings shelter, security, privacy, investment, status, and personal identity. Housing provides shelter, but more than that it is the primary component of the total environment in which we live.¹⁸³ The forms and the conditions of the housing shape the urban environment, whether as slum housing, suburban tract developments, or new towns. The town planner who is basically concerned with housing needs and provision strives to marry these two vital aspects together in the face of administrative, statutory, financial, social, physical/ecological, cultural, political, poetic, ethical, and technical considerations.

As Dmochowski reminds us, architecture is neither a purely artistic nor an exclusively technical activity. Its aim is to provide a material frame for the major part of human life: for work and rest, for religious, social and artistic activities. Among all the arts architecture is the most firmly linked with human life and reflects its dynamics most faithfully. No good architecture can originate without respect and love on the part of the society for which it is created -- a society which is conscious and proud of its own culture.¹⁸⁴

Literature abounds on various aspects of the house. There are also as many definitions as there are authors. Housing has been broadly defined as including its surrounding neighbourhood and amenities (Adams; Altman and Werner¹⁸⁵). Housing is a product, a consumer good; it is simply urban planning (Beyer¹⁸⁶); it is a social and economic process. Hugh-Jones¹⁸⁷ and Moore¹⁸⁸ emphasize the dynamic and processual aspects of buildings and social groupings. Housing is often taken to mean shelter by the people in arctic winds and tropical downpours who need protection from their foes including the elements.¹⁸⁹ However, housing is more than shelter; it is part of the fabric of neighbourhood life and of the whole social milieu; it also touches upon many facets of industrialization, economic activity and development. Home is a reflection of several facets of a culture and a place that has many

"windows" through which one can see how a culture relates to its environment.¹⁹⁰

Housing, through the role of politics and public policy, is one of the key elements which link both material and social aspects of the community. The house is a sacred entity and examples of this sacredness abound in many parts of the world. Not only was the house the safe temple for the daily religion for the ancient Chinese, everything about it was sacred -- roof, walls, door, windows, fire and well. In West Africa, the house is primarily spiritual, a link among the living, their ancestors and the earth. In traditional Yoruba society, the remains of a dead person is buried in his or her room or within the passage/corridor (*odede*) to enable the dead to communicate with and protect the children and relations left behind. This attitude is a reflection of the Yoruba's expression of the house as, to use Carsten and Hugh-Jones's words, having "animate qualities; they are endowed with spirits or souls, and are imagined in terms of human body".¹⁹¹ Hugh-Jones presents Tukanoan (Northwest Amazonia) mythology in which their traditional longhouse or maloca mediates between the body and the cosmos, between the present and the past, and provides the ritual switch point between microcosm and macrocosm which facilitates a continued access to the ancestors.¹⁹² The Yoruba have always strongly expressed the notion that a house listens and hears human voices, and they believe that if a house is left unoccupied or abandoned it will decay and eventually collapse. This is taken to the extent that a Yoruba person will look for people to occupy his or her house for the period that he or she would not be available. Thus there is, among the Yoruba, a perceived link between body and house, and between the house and the ideas, life-style, thoughts, belief, experience and activities of the people who live in them.

Amos Rapoport, Claude Levi-Strauss, Stephen Gudeman, Gudeman and Rivera, Labelle Prussin, and Paul Oliver are among the most influential theorists of the role of the house in society and economy. They consider the house not only as an actual entity that structures social interactions but also as a source of core symbols that constitute those

interactions. In his study of North America and medieval Europe, Levi-Strauss refers to those societies he categorized as Indonesian and Indo-European "house societies" (*société à maison*) and he suggests that the category of "house society" might be extended to include Ancient Greek, feudal Japan, the Philippines, Indonesia, and Melanesia.¹⁹³ For Gudeman and Rivera the house is a fundamental model of the economy, predating market and corporate models; that is, the house is an economic and decision-making unit with a specific membership and developmental cycle.¹⁹⁴ The Yoruba traditional compound is a meeting place of some of the most vital aspects of social life: life, death, sex and procreation, politics, economics, recreation and socialization, worship, and character development. The compound plays a significant role in the economics and social organization of the Yoruba society. The study of the Yoruba compound is, therefore, the study of kinship, religion, cosmology, social organization, economics, politics, conflict resolution, traditional law and customs, basic education, language, arts and crafts, and community environmental planning.

Janet Carsten and Stephen Hugh-Jones discuss at length the metaphorical associations between people and houses. To them, "houses are much more than physical structures...Like the people they contain, houses are dynamic entities which are often thought to be born, mature, grow old and die".¹⁹⁵ They focus on the interrelations between buildings, people and ideas, using ethnographic case studies (drawn from Southeast Asia and lowland South America) to reveal some of the different ways in which houses come to stand for social groups and represent the world around them. Carsten and Hugh-Jones look at the anthropology of the body and suggest that:

the house is an extension of the person; like an extra skin, carapace or second layer of clothes, it serves as much to reveal and display as it does to hide and protect. House, body and mind are in continuous interaction, the physical structure, furnishing, social conventions and mental images of the house at once enabling, moulding, informing and constraining the activities and ideas which unfold within its bounds. A ready-made environment fashioned by a previous generation and lived in long before

it becomes an object of thought, the house is a prime agent of socialization.¹⁹⁶

Wilson¹⁹⁷ and Bourdieu¹⁹⁸ observe that the house is an instrument of thought in societies without writing.

2.8.2 *House Typology*

Altman and Chemers discuss extensively the role of culture in determining house form particularly as manifested in the various facets of culture: cosmology, religion, and family and social structure. According to them, one aspect of cosmology that appeared early in relation to house form concerned horizontal and vertical dimensions of the universe; the cardinal directions of north, south, east, and west (horizontal dimension) of the universe has been pervasive across cultures, historically and presently from the ancient Egyptians and Sumerians to the Pueblo Indians, and from the Western world with its complex technology to traditional societies.¹⁹⁹ Altman and Chemers observe further that:

the Oglala Sioux Indians have a circular conception of the world and design their homes and communities accordingly [in the way the Yoruba of Nigeria design the settlements in concentric pattern]... But ancient Chinese societies emphasized the rectangular quality of the world and designed their communities accordingly... The Mbuti Pygmies of Zaire, Africa, live in a rain forest so heavily vegetated that they can hardly see the sun or stars. For them the world is primarily horizontal, and the sun and sky have little religious or symbolic meaning in their life.²⁰⁰

Darjosanjoto and Brown observe that most houses throughout the Indonesian archipelago are traditional in form, and follow the principles that have been handed down over the generations. There is little specialization or differentiation among building types. In form and layout, they follow precedents which are collectively understood and sanctioned, and which have gradually evolved to satisfy most of the social, cultural and physical requirements of the people.²⁰¹ Baruch Givoni notes that the type of houses for the people to be housed depends on the socio-cultural preferences and economic factors and may differ greatly

among different countries and societies with similar climates.²⁰² As Isichei observes, the designs of houses and the ways in which they are grouped into cities, towns or hamlets, mirror social relationships.²⁰³ Vlach notes that "the ideal that the Yoruba express in their architecture is a desire for an intensively involved participation in social, family and personal affairs." ²⁰⁴

In his widely circulated classical work, *House Form and Culture*, Rapoport discusses extensively the various determinants of house form citing examples from different parts of the world. Climatic determinism (which has continued to be strongly emphasized in architecture), materials, construction, and technology, site, defence, economics, and religion were all considered to exert great influence on the form of house that a people build for themselves. He did not however, consider physical forces, especially climate, to be a single or principal causal factor.

The house is an institution, not just a structure, created for a complex set of purposes. Because building a house is a cultural phenomenon, its form and organization are greatly influenced by the cultural milieu to which it belongs...house form is not simply the result of physical forces or any single causal factor, but is the consequence of a whole range of socio-cultural factors seen in their broadest terms...The forms of primitive and vernacular buildings are less the result of individual desires than of the aims and desires of the unified group for an ideal environment.²⁰⁵

From this premise, Rapoport identifies several house forms including the open house used in the jungle area near Iquitos, Peru; the structurally nonoptimal huts of the Ashantis and Iranians; the round houses of the Piaroa of South America, and the rectangular courtyard house of the Yoruba of Nigeria.

Altman and Chemers use the factors of technology, physical environment (climate, terrain), and culture (family structure, social system, religion, and cosmology) to describe the diverse types of homes that have existed in history around the world:

From the elaborate palaces of the French kings of the Renaissance to the tents of the nomadic tribespeople of northern Africa; from the mansions of the

motor and mining barons of the industrialized Western society to the squatter shacks of Central and South America; from the plush condominiums of New York and Chicago to the small houseboats of Hong Kong Bay; from the tract homes of middle-class American families to the grass huts of African tribal groups; from the modern home equipped with family room, bedrooms, living room, kitchen, and laundry room to the one-room temporary huts of African Pygmies.²⁰⁶

Norberg-Schulz examines the concept of the dwelling and was able to identify types of houses that were found in the history of architecture. He observes that in Rome two kinds of domestic structures were created: the *domus* (the atrium or peristyle house which initiated the development of the villa and the suburban house in southern Europe) and the *insula* (the urban tenement house which was the point of departure for the urban block). Both *domus* and *insula* were court-houses. Norberg-Schulz goes further to observe that during the Middle Ages, and namely in Central and Western Europe, the hall-house and the row house developed and both were generally conceived as gabled structures.²⁰⁷ Ruth Eaton in *Down to Earth* cites numerous examples of the types of houses that were developed in history and emphasizes that all of them were once built of mud whether in Jericho, Harappa and Mohenjo-Daro in Pakistan, Chan-Chan in Peru, Babylon in Iraq, Santa Fe in New Mexico, Ile Ife in Nigeria, Spain, England, Germany, and Sweden. In those places unbaked earth was used for housing, prestigious monuments, warehouses, aqueducts, pyramids, monasteries, and in the 7th century BC, the "famous Tower of Babel was built of earth, its seventh level teetering at 90m -- [hu]mankind's first skyscraper".²⁰⁸

Paul Oliver in his *Dwellings: The House Across the World* examines the variety of houses that people have built in history. Susan Denyer gives a taxonomy of house forms which contains detailed types of houses across Africa. Such houses include the round plan (conical or trumpet-shaped) houses of the Tullishi (Sudan), Wanji (Tanzania), Luo and Kikuyu (Kenya), Jukun (Nigeria), and the Mandinka of Mali; the round, oval or rectangular house of the Ambo (Namibia), and Sotho (Lesotho); the rectangular tents of the nomadic

pastoralists of Ethiopia, and some Tuareg (Niger); the square plan and pyramidal thatched roof house of the Ngelima of Zaire; the underground or semi-underground buildings of Gorowa of Tanzania and some Tigre of Ethiopia; and the rectangular plan and puddled mud walled courtyard house of the Yoruba, Hausa and Ekoi of Nigeria.²⁰⁹

Richard Hull discusses the origins and evolutions of African habitations. He notes the hemispherical and beehive-like dwellings of South Africa; the cone-on-cylinder dwellings of the sedentary agriculturalists and town-dwellers in most of Tanzania, Mozambique, Malawi, Zambia, and Zimbabwe; the bread-loaf-shaped dwelling of the Zulus of South Africa; the onion-textured dwelling of the Sidamo of Ethiopia; the flat, low mud-roofed pole and mud dwelling built by the Cogo of Tanzania, and the earthen walls, mud hump-roofed dwelling with open interior courtyard built by the Hehe of Tanzania. Hull informs us that during Rome's occupation of North Africa the rectangular house with an atrium or open inner courtyard became a popular aristocratic style. The impluvium or courtyard form reached its highest point of articulation in the cities of the Yoruba and Asante in the early nineteenth century.²¹⁰

Faozi Ujam²¹¹ discusses the relationship of building form and climatic elements, especially the issue of radiation. He observes that in all latitudes the north side of a building receives only a small amount of radiation, and this comes mainly in the summer, while in the low latitudes the north side receives in summer nearly twice the impact of the south side. He goes further to observe that a square building is widely believed to have the best characteristics of preserving the heat in winter and remaining cool in summer based on the fact that a square building combines the largest practical volume with the smallest outside surface.

The traditional house type or residential unit in Yorubaland is the compound (*Agbo ile*). *Agbo ile* is usually rectangular in shape and sometimes square. It is a relatively permanent structure usually consisting of rooms on all of its four sides arranged to look onto the central

open space or courtyard. Houses of this type were built in Yorubaland up to the early 1940s. However, beginning from the early 1950s another type of house started to be built in the land. This is the “face-me-I-face-you” type of building popularly referred to as “Brazilian” type due to the fact that the style was brought to the land by returning slaves from Brazil. As Krapf-Askari observes, the so-called “Brazilian” houses first introduced by Yoruba-descended liberated slaves returning from South America and Sierra Leone became popular in Lagos after 1900, and the style spread inland with cocoa prosperity.²¹² This house type consists of a double row of rooms which open onto a common hall/passage (*odede*) (see fig. 28). In any building of this type where there is no kitchen, the *odede* will serve as a common-place for cooking in addition to being used for sitting and storage. Afolabi Ojo notes that factors such as modern building materials, the high risk of fire to the thatched-roofed compounds, rain, social development which accompanied Western civilization, politics, Christianity and Islam with their imported style of churches and mosques, and the impact of professional architects trained in Western schools have resulted in the proliferation of many types of buildings in contemporary Yorubaland. In places such as Lagos, Ibadan, Osogbo, Akure, Iseyin and other big towns self-contained houses, apartments and other buildings of complex and exotic designs are found in great abundance and have continued to threaten the survival of what is left of the traditional compounds. The returning slaves from Brazil also introduced the storey house, *ile petesi*, to the land. *Ile petesi* first became fashionable in Lagos, Abeokuta, and Ibadan before it spread to the other parts of Yorubaland.

2.9 Research Hypothesis

This study observes that the Yoruba traditional compound (*agbo ile*), as a house type, has served and sustained the Yoruba for hundreds of years. It is still very relevant in the

nation's present socio-cultural and economic situation. *Agbo ile*, as a system and process, has a good future in Yorubaland and in the whole of Nigeria. Its principles will continue to be more relevant (especially with the worsening national economy and depressed housing situation) as a solution to contemporary housing and environmental planning problems plaguing the country. The compounds are very much capable of accommodating the required addition of sanitary facilities. However, the type of sanitary facility to be incorporated or introduced and used by residents of traditional compounds should be the one that is both preferred by the users and which will not be disruptive to their economic capabilities as well as their socio-cultural life-styles. Any urban design or planning intervention should emerge from the realm of indigenous knowledge systems.

The hypothesis of this thesis is that indigenous knowledge can be applied to create sustainable housing in contemporary Yorubaland.

Assumptions

The following assumptions are made in this study:

- Traditional compounds that abut the main roads are under serious pressure for conversion to commercial spaces. The assumption here is that the nearer a compound is to a major road, the faster will be its rate of decline and the harder it will be to preserve it.
- The factors of education and rural urban-migration may continue to decrease the population of the established traditional compound which may make compound maintenance more and more difficult resulting in the abandonment and subsequent collapse of more compounds.

- As the socio-economic status of more compound residents increases, more of these residents, especially for single-family households, may shun compound living which may lead to further decay of compounds both socially and physically.
- There is a tendency for more modern materials and facilities to be added to existing compounds to strengthen their lives with the result that new compounds will be almost fully composed of modern materials.
- Traditional compounds will continue to be the only house type that the low-income members of the society can afford in the face of growing inflation and economic depression in Nigeria.

2.10 End Notes

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3.0 Yorubaland: Geographical Description

Yorubaland, as described by Robert Smith,¹ is a vast area as large as England. This area is inhabited by the Yoruba who constitute one of the three principal ethnic groups in Nigeria, the other two being the Hausa-Fulani, and the Igbo. Concentrated in the southwest Nigeria, the Yoruba people have been noted by various scholars and early travellers as having perhaps the oldest urban civilization in sub-Saharan Africa (Mabogunje²; Ojo³; Lloyd⁴; Krapf-Askari⁵; Clapperton⁶). Yorubaland has supported towns and cities for approximately a millennium.⁷

The Yoruba are united by language [the Yoruba language: *ede Yoruba*], to a large extent by culture, and also by the traditional belief that they are all descended from Oduduwa, a mythical demiurge held to have come down from Heaven and instituted both the cosmic and the political order as the Yoruba know it.⁸

The issue of common descent explains the strong unity (*isokan*) among the Yoruba, and is expressed in the way they organize themselves into associations (*egbe*) for collaborative and cooperative approaches to individual as well as group development. *Egbe* membership enters every aspect of Yoruba life because a person who has no *egbe* is regarded as an introvert and a bit of a social misfit. In all *egbe*, even those formed on the basis of common occupation, a sense of friendship, mutual aid and support binds members together and involves them in participation in each other's projects, celebrations, life-cycle ceremonies and, of utmost interest to this study, house construction and maintenance.

3.0.1 Geographical Location

Yorubaland is located within the tropics, much nearer to the equator than to the Tropic of Cancer. The roughly east-west coast-line is about 6° 22' N of the equator; the southern-most point is about 6° 0' N while the northern-most part is about 9° 05' N. The longitudinal references are roughly 2° 40' E, and 6° 0' E. in the north-east.⁹ Describing the geographical extent of Yorubaland, Smith observes that the homeland extends on average of about 300 km in from the Atlantic Coast (see figs. 5 & 6). Smith further noted that:

The homeland of the Yoruba (*ile Yoruba*) stretches from the swamps and lagoons of the coast across the rain forests, rising gradually towards the oil-palm bush and woodland savannah and the distant bend of the Niger. For the most part it is a fertile and verdant country watered by many rivers and streams, and with a landscape which varies from the gloom and misery of the swamps and high forest to the exhilarating panorama of the northern uplands, where rocky hills stud a park-like scene which recalls the paintings of the Romantic school in Europe.¹⁰

3.0.2 Climate

The geographical location of Yorubaland normally makes for a consistently high temperature as a result of the sun being nearly overhead at noon throughout the year. As Ojo explains:

the angles of incidence of sun's rays at Okitipupa (6° 30'N) and Kisi (9° 0'N) during equinoxes are 83° and 81° respectively. This position of the sun results in very little mean monthly range throughout the year with the mean annual range of temperature varying from below 20°F in the south to about 35°F in the north-west, and maximum range above 50°F in the north-west and between 30°F and 50°F in all other parts.¹¹

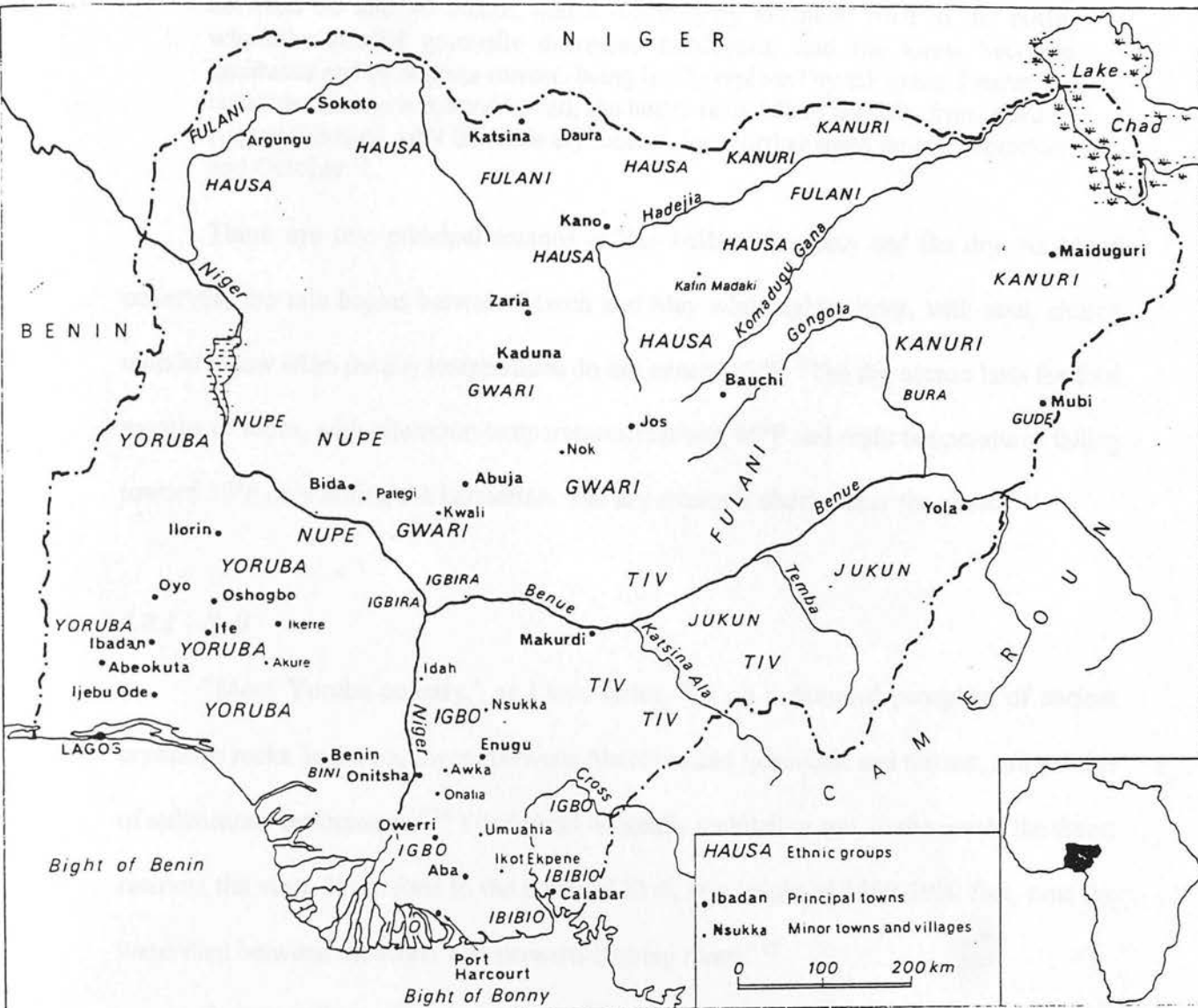


Fig. 5: Map of Nigeria showing the Yoruba and other principal ethnic groups.

Source: Moughtin, C. (1988), *The Work of Z. R. Dmochowski: The Nigerian Traditional Architecture*, p. 16

Krapf-Askari (1969) describes the climate of Yorubaland in the following words:

Yorubaland falls into three main ecological zones; a low coastal area characterized by high annual rainfall (70 to 100 inches), lagoons and mangrove swamps; a fertile rain-forest belt with heavy clay soils and a rainfall varying between 50 and 70 inches; and a higher-lying savannah zone to the north, where the rainfall gradually decreases northwards and the forest becomes deciduous and by degrees sparser, being finally replaced by tall grass. Nearer the coast, the climate is hot and humid, the heavy rains falling annually from April to August followed, after the 'little dry season', by a further spate during September and October.¹²

There are two principal seasons in Yorubaland: the rainy and the dry. As Lloyd observes, the rain begins between March and May while lighter rains, with cool, cloudy months follow when the day temperatures do not exceed 83°F. "The dry season lasts for four months or more, with afternoon temperatures reaching 95°F and night temperatures falling toward 50°F only during the harmattan. The dry season is shorter near the coast."¹³

3.0.3 Soil

"Most Yoruba country," as Lloyd notes, "lie on a denuded peneplain of ancient crystalline rocks. In the southwest, between Abeokuta and Ijebu-Ode and the sea, run a series of sedimentary escarpments."¹⁴ Yorubaland is "gently undulating and, in the south, the forest restricts the view. From Saki to the north of Ekiti, at a height of 1500-2000 feet, runs the watershed between the Niger and seaward-flowing rivers".¹⁵

Swamp soils are found in the zone of the narrow swamp forest bordering the coast, dark mud in the south gradually giving way to clays and sand. Three other soil types, the Benin, the Ibadan and the Saki are found successively northwards throughout the area.¹⁶

3.0.4 Demography

The Yoruba of West Africa are a numerous people. The Yoruba lived in cities of substantial size even before Europeans arrived in this part of the African continent.¹⁷ As early as 1856 there were nine Yoruba cities of over 20,000 including three of over 60,000 population. By 1911 the number of Yoruba cities had increased to eleven with five having over 60,000 population. By 1952 there were nine such cities.¹⁸

In the 1952 population census in Nigeria, the Yoruba numbered nearly five million and lived in the provinces of Oyo, Abeokuta, Ibadan, Ondo, and Ijebu in the Western State, and in Lagos.¹⁹ In 1952 about 53% of them lived in urban communities of 5,000 inhabitants and 12 of those urbanized communities, exceeded 40,000 with 31% of the Yoruba population living in them, including Ibadan, Lagos, Ogbomoso, Osogbo, Ife, Iwo, Abeokuta, Oyo, Ilesha, Iseyin, Ede, and Ilorin.²⁰ (See table 9 and fig. 7).

The 1991 population census in Nigeria provisionally put the population of the States constituting the Yoruba-speaking area at 21.3 million made up of Oyo, Osun, Ogun, Ondo, Lagos, and Kwara States. Iseyin Local Government Area in Oyo State, of which Iseyin is the headquarters, had a population of 170,589.²¹

3.0.5 Language

The term "Yoruba" is used to describe all those who speak a common language, the Yoruba language. Smith (1969) observes that although Yoruba is recognizably a single language or 'dialect continuum,' spoken Yoruba varies considerably in phonetics, vocabulary, and grammar in different parts of Nigeria, patterned most clearly along the divisions of the ancient kingdoms of Oyo, Ijebu, Ife, Ijesha, Egba, and Ibarapa.²²

The Yoruba language belongs to the Kwa group of the Niger-Congo family.²³ The languages most nearly related are those of the Igala and Idoma, south of the Benue River.

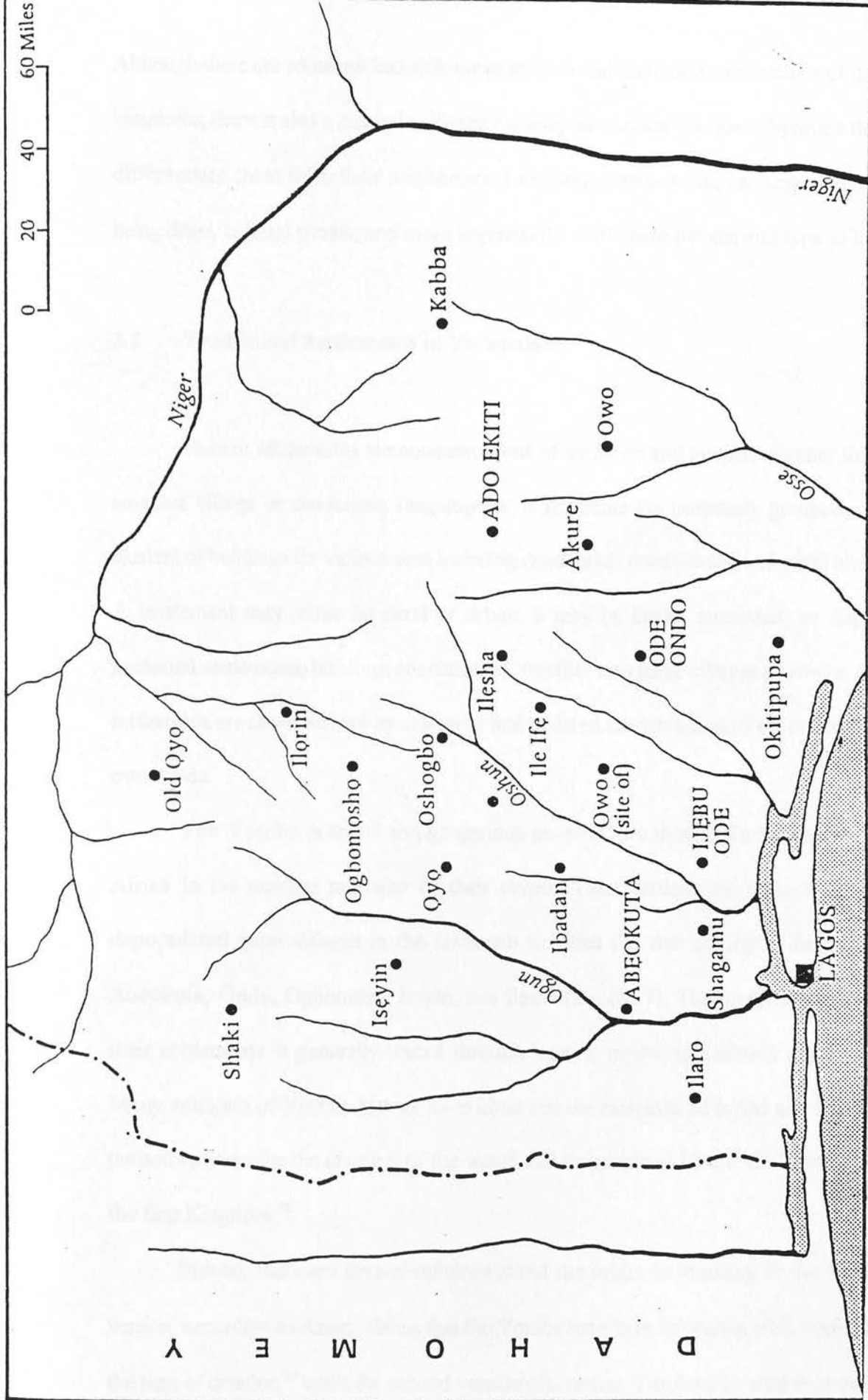


Fig. 7: Location of Main Yoruba Towns and Cities.

Source: Lloyd: Yoruba Land and Law; reproduced from Krapf-Askari, 1969, Yoruba Towns and Cities, p. 177.

Although there are some marked differences in the social and political structure of the various kingdoms, there is also a cultural uniformity among the various Yoruba subgroups that clearly differentiate them from their neighbours. Language is one strong unifying element, others being dress, cultural rituals, and more importantly, settlement pattern and type of habitation.

3.1 Traditional Settlements in Yorubaland.

Human settlements are concentrations of activities and people, whether they are the smallest village or the largest megalopolis. Settlements are purposely grouped, organized clusters of buildings for various uses including residential, commercial, industrial and cultural. A settlement may either be rural or urban; it may be linear, nucleated, or dispersed. In nucleated settlements, buildings are clustered together into large villages or towns. Dispersed settlements are characterized by scattered and isolated farmsteads each set in the midst of its own fields.

The Yoruba, a social and gregarious people,²⁴ are thought to be unique in tropical Africa in the number and size of their towns. Their settlements range from poor and depopulated rural villages in the savannah to cities the size of Lagos, Ibadan, Osogbo, Abeokuta, Ondo, Ogbomoso, Iseyin, and Ilesha (see fig. 7). The origin of the Yoruba and their settlements is generally traced through legend, myths, speculation and archaeology. Many scholars of Yoruba history have observed the existence of myths and legends which purports to describe the creation of the world and its people at Ile-Ife, the World's Centre of the first Kingdom.²⁵

Indeed, there are several opinions about the origin or founding of the Yoruba. One version, according to Azeez, claims that the Yoruba have been inhabiting their homeland since the time of creation,²⁶ while the second version claims that Yoruba migrated from the eastern

part of the world (Mecca) as a result of religious persecution by Arabs. The first version,

the creation myth, described how God let down a chain at Ile-Ife by which Oduduwa -- the ancestor of the Yoruba, and indeed of all humans -- descended, carrying a cock, some earth and a palm-kernel. Oduduwa threw the earth into the water, the cock scratched it to become land and the palm grew with sixteen branches, representing the sixteen original kingdoms.²⁷

The second version, the Oyo version, which claims that the Yorubas migrated from Mecca, suggested that they arrived at Ile-Ife during the Bronze age, between 2000 and 500 B. C.²⁸ In the two versions, however, there is a general consensus that Oduduwa was the great creator while Ile-Ife was the cradle of Yorubaland.

Frobenius²⁹ related Yoruba ideas of cosmology to the plan and layout of the towns. In his mythological explanation, the world in the beginning consisted of an island surrounded by water, on which the first chiefs (*Ijoye*) wandered about aimlessly. To the *Ijoye* descended *Olorun* (God, who is generally seen as the ultimate creator) with the other *orisa* (deities). *Olorun* said:

Eshu, sit thou behind me; thou Shango [god of thunder] in front of me; Ogun [god of iron] sit thou on my right hand; Obatala [god of creation] thou on my left. Ye other gods, sit round me in a circle...This city shall...be called Ife. Sixteen gods have come with me. They will have children and they shall live around you. Thus will Ife have a great people. But thou Oni thou shalt here hold sway and tell the Alafins the will of the gods.³⁰

3.1.1 Founding and Development of Settlements

As Ujam observes, whether we look at the city morphologically or functionally, we can not understand its development without taking in its relationship to earlier forms of cohabitation which go far back in history.³¹ Yoruba traditional settlements evolved and developed at different stages in recorded history. The historians of Yoruba towns have

emphasized that the oldest ones were probably founded about the same time between the 7th and 10th centuries as were many of the northern Nigerian towns. Hence Yoruba towns are both pre-colonial and pre-industrial³² and were established before systematic contacts with the West began. The settlements are characterized by an indigenous population which is relatively ethnically homogeneous. The effects of Western industrial civilization on these towns have been less direct and more diluted than in towns created and maintained by Europeans³³ such as Kano, Enugu and Port Harcourt.

The founding and development of Yoruba traditional settlements, as mentioned earlier in this work, were usually traced to Oduduwa whose seven Princes moved out of Ile-Ife to found the first generation of settlements. At a later period, other secondary settlements were founded by dissatisfied princes and notables or simply grew upon sites with favourable locational characteristics.³⁴

Many Yoruba settlements, were founded by prosperous farmers, hunters and warriors. Although the mysteries and circumstances surrounding the founding of the towns vary, they have a common underlying process of evolution and development. In most cases the founder would settle at a place after due consultation with the Ifa Oracle for guidance. As he became prosperous, other individuals and groups would be attracted and huts started to spring up in large number around the farmstead of the founding man - the *Baale* or mayor of the village in whose family the mayoralty became perpetuated. The farmstead would, in course of time, develop into a hamlet and later to a village, a small town, and a big town or city. The house of the *baale* became the official residence and was henceforth kept in good repair by the men of the town, and the frontage of his house also became the principal market of the town.

3.2 Settlement Morphology

Lozano (1990) defines morphology as applied to community design “the science of form, or of the various factors that govern and influence form.”³⁵ He further observes that the urban form of traditional settlements, most of them of the popular tradition, but also a few produced by elite designers in preindustrial times, is rooted in pervasive factors that shape physical organizations and spaces. Lozano goes further to state that the morphology of traditional settlements has its root in the physical characteristics of a site as they interface with the requirements of the social group. The key morphological factors, he noted, can be grouped into four sets, and all of them combine in various ways to explain major settlement typologies, land uses, densities, distributions, systematic organizations, and growth and change characteristics. They are:

1. the way in which nature and human-made features satisfy needs for protection and defence;
2. the way in which physical and economic landscape allow for communication with other regions;
3. the way in which the topography of a site suggests the construction of a human settlement; and
4. the way in which climate leads to building solutions adapted to it.³⁶

Factors (1) and (4) above are applicable to any discussion of the form of Yoruba traditional settlements. The two factors, along with those of fertile and well-drained soil, availability of water, religio-spiritual (Ifa oracle's dictate), administration, and trade have influenced greatly the siting and structural pattern of Yoruba traditional settlements and their peculiar house type- *agbo ile*- which has persisted for centuries.

Bruce Trigger³⁷ discusses extensively the determinants of settlement patterns. He identifies some determinants of settlement location including subsistence regime, availability of building materials, environment, family structure, wealth differentials, population, specialization of production, political institutions, secular taste, subsistence technology, and migration. Sanders³⁸ and Brown et al.³⁹ identify rainfall, temperature, topography, hydrography, and zonal soil patterning as ecological determinants of settlement location.

Defence and protection against predatory animals and enemy attacks influenced the location of early Yoruba towns. Many (such as Ibadan, Saki, and Abeokuta) were located within or near a group of hills or on high grounds with adequate steep slopes, to make enemy intrusion difficult and costly, near water barriers, on meandering loops and river banks. The settlements were, in addition, walled round for additional protection and particularly for some settlements that had no hills near them. The closely-packed nature of buildings in Yoruba towns was borne out of the need for protection as a compact pattern promotes easy defence and quick mobilization of members especially in time of danger (see fig. 27). Physical developments took place within the walls and whenever the walls were reached, a second wall was built at a distance away from the first (see fig. 8). Developments outside the walls were often linear, being made along transportation routes.

Transportation systems are the lifelines of a settlement, and their locations at strategic intersections and transfer points greatly increase their economic, and eventually political, capacity.⁴⁰ In Yoruba traditional settlements, the major occupations of the people were subsistence agriculture, hunting, and trading, all of which required frequent movement and an appropriate circulation system. There were, therefore, a network of footpaths, narrow and winding streets linking parts of a settlement together (providing access to spaces and activities) and also linking one settlement to another. The main mode of movement was by foot and as such the society did not require wide streets and motorways which characterize

contemporary settlements. Along the paths are located various community facilities and activity spaces.

Climate also exerts a profound influence on the overall structure of Yoruba settlements. As Lozano observes, "traditional settlements worked with the local climate, not against it."⁴¹ As previously mentioned, Yorubaland experiences a hot and humid climate with very high temperatures during the day and low temperatures at night. This explains why houses were built of massive solid mud walls surrounding a courtyard for air circulation. The walls are so massive that they were considered bullet-proof because bullets (*ota ibon*) (especially local ones) fired at the walls would not penetrate -- a very strong defensive feature of the compound. The mud walls absorb heat (*ooru*) during the day leaving the rooms cool, and release heat during the night to warm up the inner spaces. Spaces (*alafo*) between compounds were moderately small or relatively narrow in order to keep out the sun and enable people to walk under cover/shade provided by the shadow (*ojiji*) of the compounds.

Traditional settlements are cognitively clear, legible, perpetually complex and rich. Elements of the town are conceptually related, closely linked and self-explanatory. Traditional human settlements assume similar patterns in the way their constituent parts are arranged. Settlements in the same geographical region of the world possess the same form in their overall layout. In his semeiological analysis of traditional African settlements, Lagolopoulos observes that with the exception of certain linear settlements, all African settlements (those of the Yoruba in particular) are organized around a central feature either concentrically (south of the equator) or quadrilaterally (north of the equator).⁴² The central feature may be a tree, an open space, a cattle enclosure, a hut, a cross road, a hill, an altar, a mosque, a mausoleum, a market place, or a palace as with most Yoruba settlements (see fig. 8).

The classical plan of a Yoruba town resembles a wheel: the *oba's* palace being the hub, the town walls the rim, and the spokes a series of roads radiating out from the palace and linking the town to other centers. Beyond the walls lie the farm-

plots; first the *oko etile* or farms of the outskirts, then the *oko egan* or bush farms, merging imperceptibly with the *oko egan* of the next town.⁴³

The structural pattern of Yoruba traditional settlements, like others of their type and time elsewhere, do not conform exactly with the classical urban models which were discussed in Chapter Two. The spatial urban structure models can only be partially applied to the structure of Yoruba traditional settlements which largely take on a concentric form and which fit into the Concentric Zone Theory of Ernest Burgess⁴⁴ with developments extending outwards in circles from the King's palace (*aafin Oba*) at the centre towards the town walls (*odi ilu*) (see fig. 8). Town expansion and the accompanying multiplication of markets, in particular, have altered the structure of some of the large settlements such as Ibadan, Osogbo, and Abeokuta. No sooner a market is established in a new area of these settlements than residential and related developments start to spring up as noted in Chapter Two. There are now multiple centres in these fast growing towns and cities which make them exhibit some of the features of the Multiple Nuclei Scheme of Harris and Ullman⁴⁵. The value of Land in Ibadan increases from the Central Business District and engulfing the outlying residential areas of Ekotedo, Salvation Army, Agbeni, Foko, and Inalende. In the same way, property value is high around each of the markets (commercial nuclei) such as Alesinloye, New Gbagi, New Bodija, Ojoo, and Shasa. In Iseyin, the cost of land is highest along Oyo road around the Ebedi Market/Motor Park.

It is pertinent to mention here that the arrival of the British colonialists into Yorubaland created a dramatic change in the morphology of the settlements. The British brought in their type of habitation and layouts which resulted in a forced interaction of two cultures -- native and western -- giving rise to "twin cities" within a given settlement. There was the indigenous section which took on the traditional form in which lived the local population in high residential densities, and the European or non-native section characterized

by foreign-styled buildings each occupying a minimum of one acre of land.

The concentric pattern of Yoruba traditional settlements, is a product of the founding communities based upon consensus and community objectives and aspirations as well as the traditional socio-economic organization of the people. The concentric form of the settlements, with the King's palace (*aafin Oba*) and town market (*oja ilu*) at the centre, is a cultural expression of the society which translates, as Lozano puts it, "social structure, lifestyle and values into buildings and spaces."⁴⁶ The Yoruba, according to Lagopoulos (1972), believe that the form of the world is circular or rectangular. "It is regarded as bipartite and also quadripartite, because of the road axes (oriented N-S and E-W) which intersect at the world centre".⁴⁷

The layout of most Yoruba traditional settlements is very similar and is based on an unwritten concept/technique that is universally adopted to the extent that the *Oba's* palace and the town (or *Oba's*) market (*oja*) form the centre and a major reference point from which other elements of the settlement take off. The streets in Yoruba towns, according to Mabogunje, "are laid out on a crude rectilinear pattern, the average width being about 5 metres. In the past each street sometimes formed a quarter consisting of a number of compounds...the traditional unit of settlement"⁴⁸ (see fig. 9). Bowen gave an accurate description of the nature of those streets:

The streets of the best and largest cities are generally very narrow, crooked and intricate. You pass on with rough clay solid walls close by on each side, and the leaves of the low thatched roofs almost brushing you in the face, until at last, weary of monotony, you turn about to retrace your steps, and discover that you are lost in a network of interminable alleys.⁴⁹

Streets in the traditional settlements were exclusively made out for pedestrians and human portage -- the very reason for their narrow width and winding nature. However, the width of these streets varies, in some cases they could be as wide as to take eight people side by side; in others, as few as four people or even two.⁵⁰

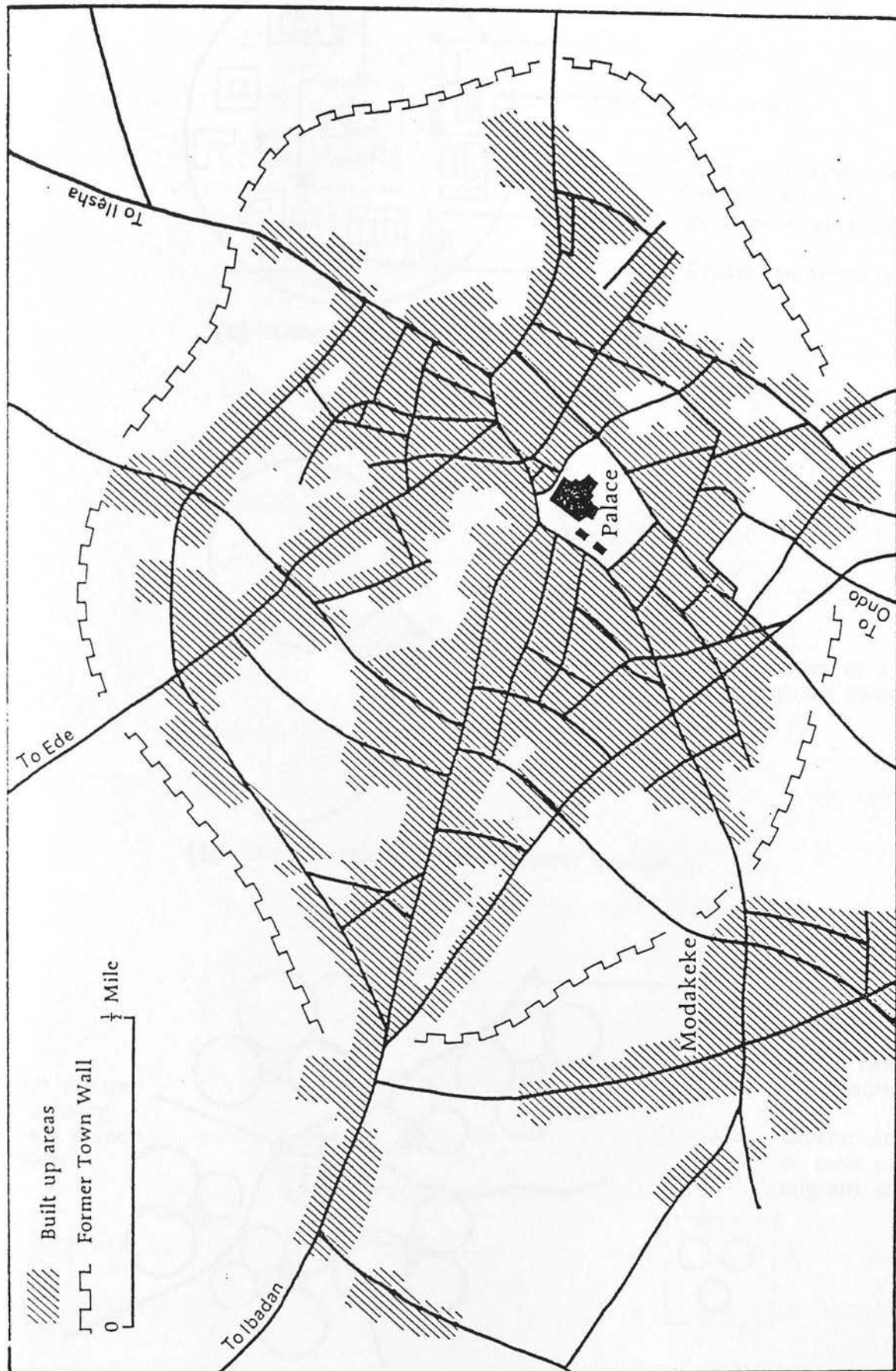
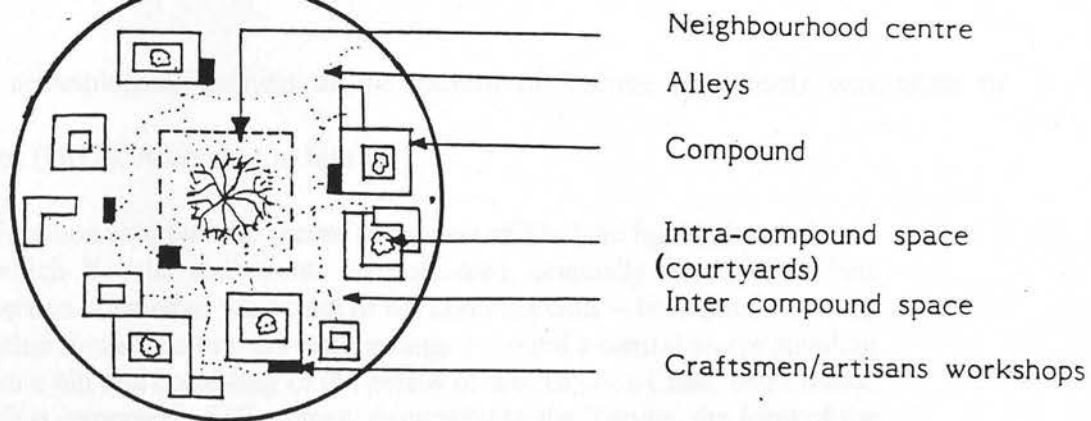
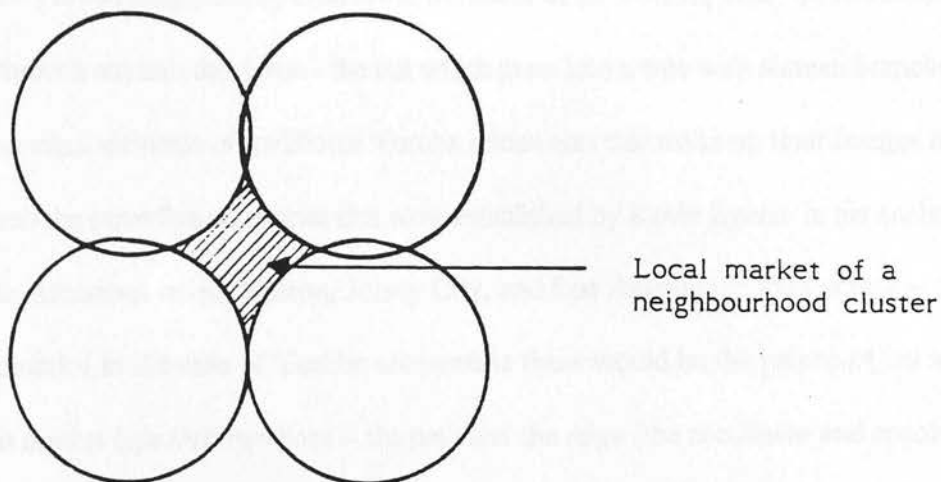


Fig. 8 The structural plan of Ile-Ife after which Yoruba traditional towns are patterned.
 Source: Mabogunje, 1962, Yoruba Towns; reproduced from Krapf-Askari, 1969, Yoruba towns and cities, p. 180.



(a) Diagrammatic plan of typical neighbourhood



(b) Diagrammatic plan of a typical quarter

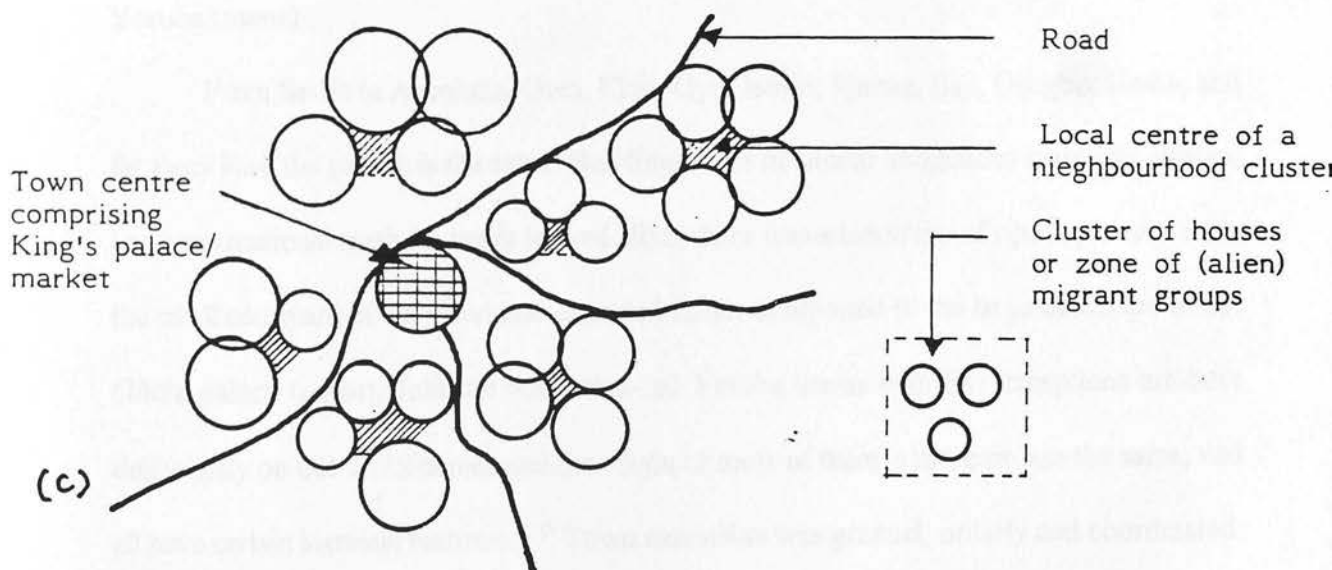


Fig. 9 : Diagrams showing the spatial patterning of Yoruba towns
Source: Wahab, W.B., 1984, op cit., p.7

A semeiological analysis of the pattern of Yoruba settlements was given by Lagopoulos (1972). According to him:

Tradition says that the sacred settlement of Ife, [see fig. 8] the model on which Yoruba settlements are patterned, originally consisted of four sectors oriented to the points of the compass with -- between them -- 12 other similar sectors. All were arranged around a central sector standing on a hill and consisting of the palace of the religious Chief. Even today, Ife is composed of 17 sectors. According to the Yoruba, the form of the world is circular...The world is also regarded as consisting of 16 parts.⁵¹

The idea of 16 parts could be conveniently related to the part of the myth surrounding the founding of Yoruba Kingdoms by Oduduwa, the father of all Yoruba, who, on descending from heaven threw a nut into the ocean - the nut which grew into a tree with sixteen branches.

The principal elements of traditional Yoruba settlements that make up their images can be classified into the same five categories that were established by Kevin Lynch in his analysis of three north American cities (Boston, Jersey City, and Los Angeles).⁵² Two points -- the node and landmark (in the case of Yoruba settlements these would be the palace (*Afin*) and the main town market (*oja ilu*); two lines -- the path and the edge (the rectilinear and crooked pedestrian streets, and town walls (*odi ilu*) with or without ditches (*koto*) or, in some towns, the home forest (*igbo ile*); one surface -- the district (the wards or quarters (*adugbo*) in Yoruba towns).

From Ile-Ife to Abeokuta, Owo, Ekiti, Oyo, Iseyin, Iganna, Ilaji, Osogbo, Ilesha, and far away Kisi, the pattern is the same. Buildings were of similar indigenous materials, design, and constructional method; roads looked alike, there was a hierarchy of open spaces -- from the small courtyard of the individual extended family compound to the large courtyard of the *Oba's* palace (*aafin*). Johnson notes that "all Yoruba towns with few exceptions are built deliberately on one uniform plan and the origin of most of them is more or less the same, and all have certain identical features." ⁵³ Town expansion was gradual, orderly and coordinated.

3.3 Traditional Settlement Planning

Writing on the design of traditional settlements, Lozano notes that traditional societies, out of their ingenuity, attached to the design of their settlements values related to the social and psychological realm of the community. Solutions to any design/planning problems "became symbolic and so much a part of the culture that they became 'second nature' to the members of the community...some design solutions were invested with magical, spiritual, and religious beliefs and values, embodying the highest symbols of the culture." ⁵⁴ For example, high ground evolved into the traditional site for religious buildings and sacred precincts in the way that shrines of Yoruba deities and other ritual sites were located in the forest (*aginju*) such as *igbo Oro* (forest of the bullroarer), *igbo Ifa*, *igbo Egungun* (forest of the masquerade), which were usually considered by ordinary people as dreadful, fearful and secluded. Oke'badan shrine in Ibadan is located on Oke'badan Hill similar to the siting of the Acropolis in Athens in the fifth century B.C.

In his discussion of the layout of Yoruba towns Afolabi Ojo notes that at a first glance "the disposition shows a haphazard, disorderly assembly of compounds; but in fact a subtle order binds them together. This order derives from the socio-political structure of the Yoruba." ⁵⁵ The lineages, the council of chiefs and the kingships were the key elements for the purpose of layout of compounds. ⁵⁶

The planning of Yoruba traditional settlements and the design of the constituent units, the compounds, was the joint responsibility of members of the community with the community leaders playing a more critical role. The planning satisfied the social, physical, psychological and spiritual needs of the community. This is one reason the overall structure of the settlements and their parts were fully accepted by all.

The location of principal facilities in traditional human settlements, and especially in

Yorubaland, was governed by common factors, most of the time with occasional variations which may depend on topography, soil, and climate. The factor of religion was crucial in traditional societies where religion was an all powerful tool used in the shaping of not only the settlement but also the people. In their study of indigenous practices in Oyo, Phillips and Titilola note that

all decisions about where to site important things such as market places, shrines, palace grounds and chiefs' quarters were guided by signals from Ifa...the infallible source of wisdom, decisions based on its signals are final and incontrovertible. Such decisions were communicated to the *Alaafin* (the title of the Oyo king) who had to give, and normally gave, the royal go-ahead before development activity commence.⁵⁷

3.3.1 Location of Palace (*Aafin*)

The twin institutions of the king's palace (*aafin Oba*) and the town market (*oja ilu*) were the most important elements of Yoruba towns until recently when government secretariats and town halls usurped the socio-administrative roles of the palace, while supermarkets and modern shopping centers encroached on the socio-economic functions of the local open-air markets. The two institutions were hitherto centrally placed."The *Afin* functioned as an assembly hall, court of justice, theatre, sports ground, and museum of its kingdom".⁵⁸ In addition, "the principal market place was the general rendezvous of the town on every national or municipal occasion"⁵⁹ (see fig. 10).

The location of the *aafin* determined the location of other elements of the town including roads and community buildings, all of which require adequate safety and security which the *aafin* readily offered. In addition, "prompt and effective relay of strategic information and military intelligence to the *Oba* and transmission of directives from the *Oba* required proximity of all relevant institutions".⁶⁰ The *aafin* in all cases was therefore centrally located to emphasize leadership, to command "followership" and obeisance, to emphasize

centrality of political authority, a mark of traditional power structure divulging from top to bottom, and also the fact that all matters end at the *aafin*.

3.3.2 Location of Town Market

The main market in Yoruba traditional settlements was always centrally located, adjacent or opposite the *aafin*, the palace of the King, the owner of the market (*oloja*), for safety and security reasons. The market is so located as to enable the *Oba* to watch from a reasonable distance the regular assemblage of his people ⁶¹ (see fig. 10). Major markets could only be created by command of an *Oba*. Their opening was usually heralded by the performance of appropriate rituals by the palace servants on his behalf. The market is both spatially and ritually related to the *Oba* who is to preserve peace and unity necessary for market transactions in which strangers meet, but cannot be allowed to quarrel. ⁶²

3.3.3 Location of Infrastructure

Infrastructural facilities were provided on the basis of need, available technology, and ability to sustain them. Roads and alleys were provided in reference to human scale and were communally constructed and maintained. Mothers with babies, children, the elderly, the handicapped and the feeble have greater mobility in the traditional settlements which possess a pedestrian character. Shrines and other public buildings, wells and communal refuse dumps, among others, were located with due consultation and consensus among members.

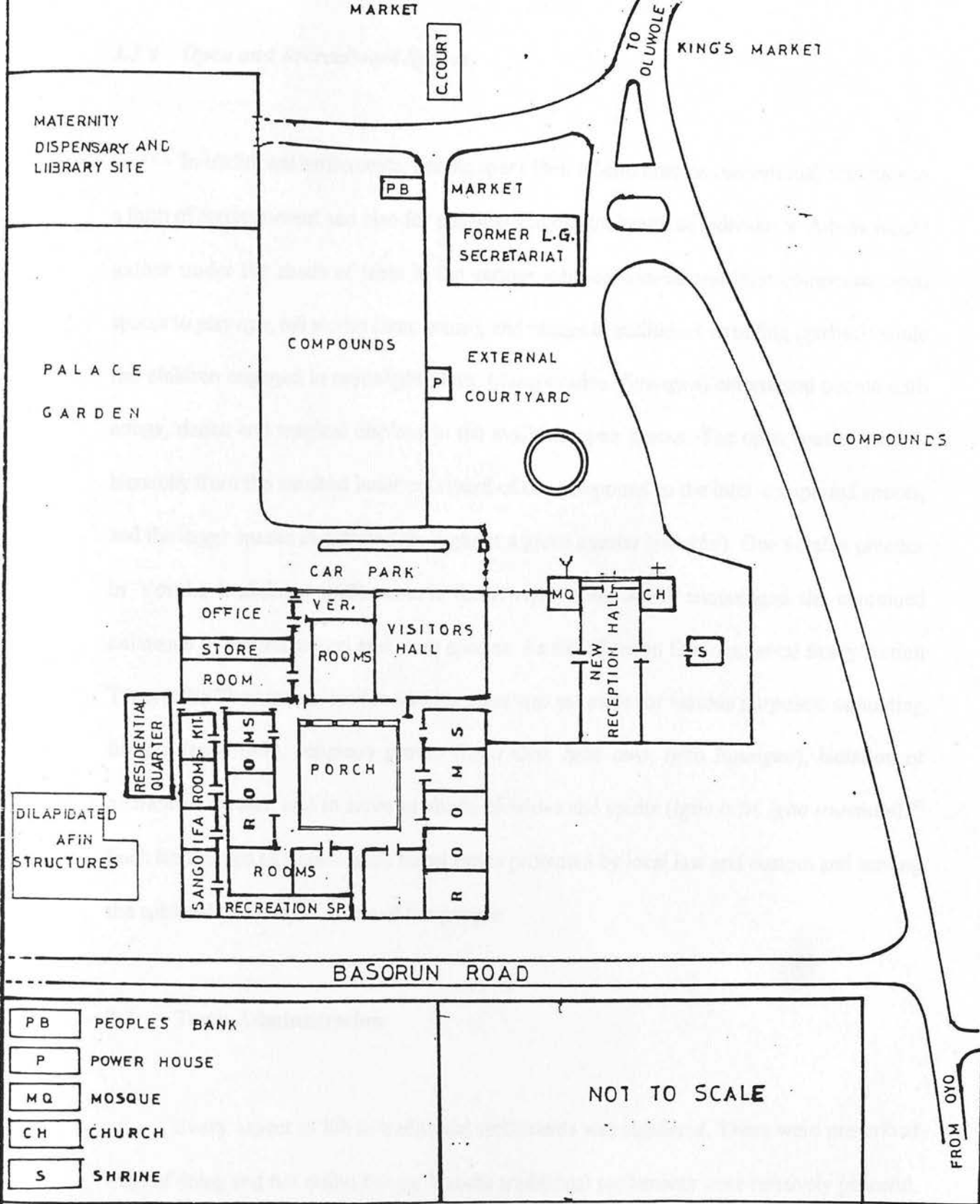


Fig. 10: Layout structure of Aseyin's Palace, Iseyin.

Source: Azees, A. R. (1995), "The Growth and Structural Pattern of Yoruba Towns: Iseyin as a Case Study," p. 123

3.3.4 Open and Recreational Spaces

In traditional settlements, people spent their leisure time on recreational activities as a form of entertainment and also for physical and mental health of individuals. Adults would gather under the shade of trees in the various intra-compound and inter-compound open spaces to play *ayo*, tell stories (*itan*, *aroso*), and engage in traditional wrestling (*ijakadi*) while the children engaged in moonlight plays. Masquerades (*Egungun*) entertained people with songs, dance and magical displays in the available open spaces. The open spaces were in hierarchy from the smallest inner courtyard of the compound to the inter-compound spaces, and the larger spaces distributed throughout a given quarter (*adugbo*). One notable practice in Yoruba traditional settlements is forest reservation which encouraged the continued existence of certain animal and plant species. As the Nigerian Environmental Study/Action Team (NEST) observes, land in varying sizes was set aside for various purposes: as hunting forests (*igbo ode*), religious groves (*igbo Oro*, *igbo awo*, *igbo Egungun*), isolation of quarantine forests, and to serve as abode of fairies and spirits (*igbo iwin*, *igbo irunmale*).⁶³ Such land served as a community forest estate protected by local law and custom and serving the spiritual and natural needs of the people.

3.4 Town Administration

Every aspect of life in traditional settlements was regulated. There were prescribed ways of doing and not doing things. Yoruba traditional settlements were relatively peaceful, sociable, secured and easy to administer with the application of the traditional power structure. Yoruba towns were administered by the *Obas*, the sacred and supreme, who controlled the whole town through the council of chiefs (*ijoye*) each of whom administered

his respective quarter with the assistance of compound heads (*baale*) who in turn administered their own compounds (see fig. 11). The chiefs also controlled smaller and newer towns founded in their sector of the rural hinterland.

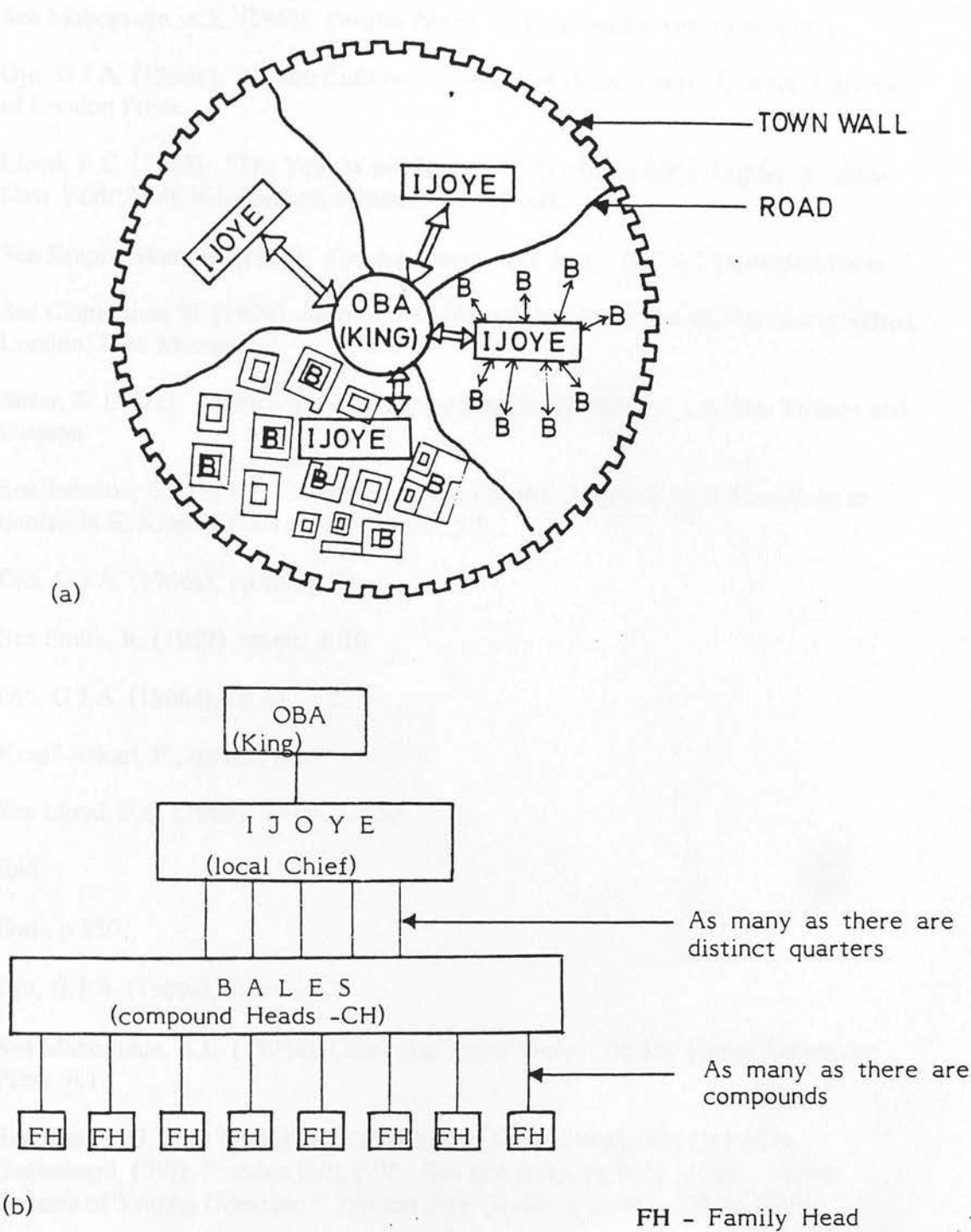


Fig. 11: Diagram showing Yoruba Traditional Town Administration.
Source: Wahab, W. B. (1984), op. cit., p. 15

3.5 Endnotes

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11. Ojo, G.J.A. (1966a), op.cit., p.23.
12. Krapf-Askari, E., op.cit., p.2.
13. See Lloyd, P.C. (1965), op.cit., p.549.
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21. For more information on the provisional census figures for the 30 states in Nigeria as at 1991 see Federal Government of Nigeria (1992). *Census News*. Lagos: Government Press; p.20 contains the figure for the Yoruba speaking states.
22. Smith, R. (1969), op.cit., pp.243-4.
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28. See Azeez, R.A., op.cit., p.29.
29. See Frobenius, L. (1913). *The Voice of Africa*. London: Hutchinson.
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43. See Johnson, S. op.cit., quoted in Krapf-Askari, E., op.cit., p.39.
44. The Concentric Zone Theory of Burgess was discussed in detail in Chapter Two, pp.24-25.
45. See Chapter Two pp.25-27 of this thesis for more information about this theory.
46. Lozano, E.E., op.cit., p.241.
47. Lagopoulos, A-Ph., op.cit., p.144. It should be noted that the form of Yoruba traditional towns as discussed in Chapter Two of this thesis is circular rather than "circular or rectangular" as Lagopoulos stated.
48. See Mabogunje, A.L., (1974b). "The Pre-colonial Development of Yoruba Towns." In D. W. Dwyer, (ed.), *The City in the Third World*. London: The Macmillan Press. Pp. 29-30.
49. For more information about the circulation pattern in the traditional settlements see Bowen, T.J. (1857). *Central Africa: Adventures and Missionary Labours in Several Countries in the Interior of Africa from 1849 to 1856*. Charleston: Southern Baptist Publication Society, p.295.
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61. Ojo, G.J.A. (1966a), op.cit., p.140.
62. Krapf-Askari, E., op.cit., p.45.
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CHAPTER FOUR

4.0 Courtyard Houses Around the World

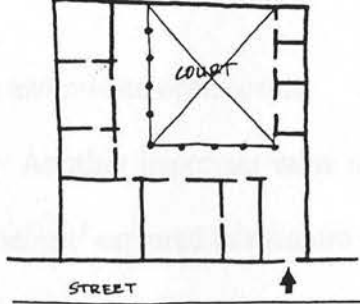
Shelter is of supreme importance to man. It is the prime factor in his constant struggle for survival. In his efforts to shelter himself against the extremes of weather and climate he has, over the ages, evolved many types of dwellings, one of which is the court house.¹

Baruch Givoni observes that courtyard houses were developed over centuries in response to different needs and limitations, such as availability of certain materials and building technology, security, and privacy and that climate was only one of these factors and not necessarily the most important one.² He goes further to state that internal courtyards maximize the thermal interaction between the building and the outdoor environment, introducing the outdoors into the heart of the building's core.³

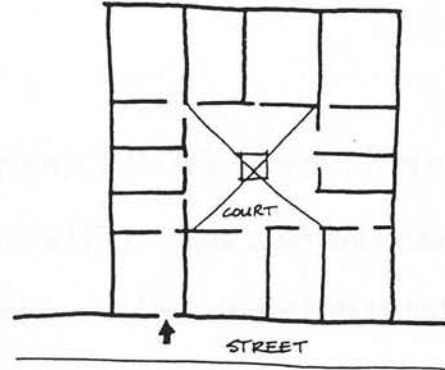
The courtyard house possesses social and ecological value. As Macintosh puts it:

the relationships of rooms to courtyard, and of the house to its neighbours and to public areas, are a physical expression of man's various roles as family member, neighbour and citizen. The courtyard house is symbolic of man the social animal. A cluster of courtyard houses has a cellular structure which suggests that man is working in harmony with nature.⁴

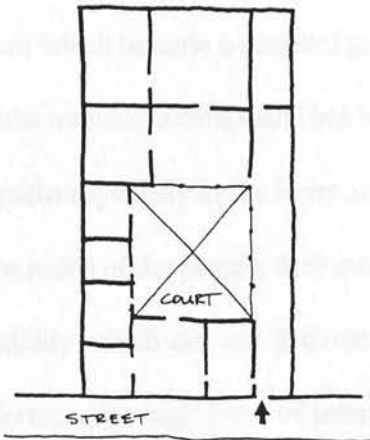
Courtyard houses promote ecological balance and nature preservation as reflected by the existence of trees as a matter of routine within courtyard houses whether in the Yoruba compounds in Nigeria or the Troglodyte courtyard houses near Tungkwan (Honan) in China. Macintosh likens the relationship of the courtyard to the house to that of the square to its surrounding terraces, the park to the town, and the national park to the region. In each of these the open space is the element around which buildings are arranged (see figs. 12 & 13). Grouped together, courtyard houses generate a dense urban fabric with a clear separation of



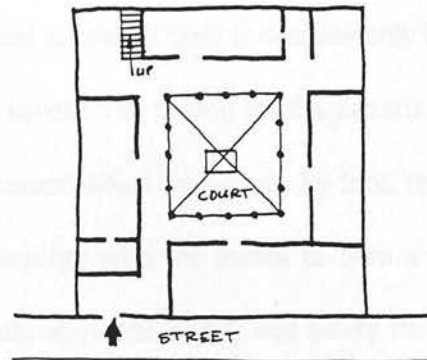
COLONIAL LATIN AMERICA
(VENEZUELA)



ANCIENT EGYPT



ANCIENT GREECE (PRIENE)



GD.FLOOR - MOROCCAN HOUSE

Fig. 12: Four courtyard houses. Houses of similar principle can be found in Rome, China, Spain, Ur, Babylon, Iraq and many Islamic countries.

Source: Rapoport, A., 1969, *House Form and Culture*, p. 82

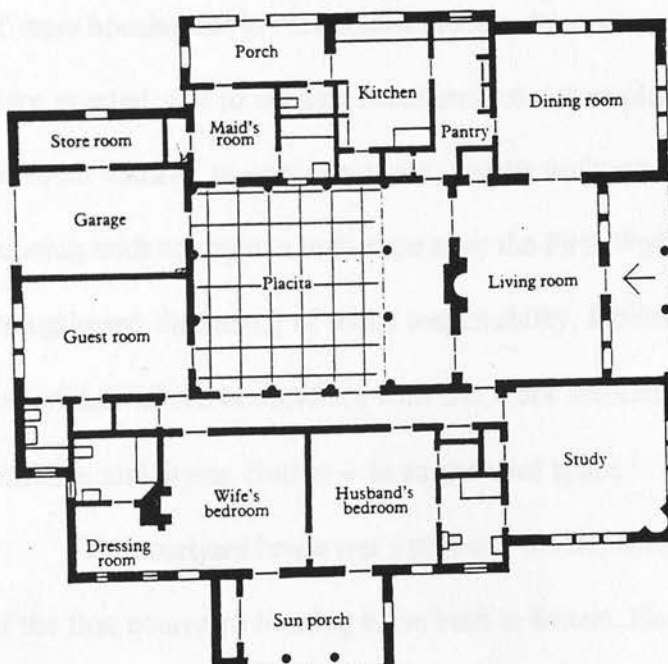


Fig. 13: Robert's Courtyard House at Coronado in California, USA., 1917.
Source: Macintosh, D., 1973, *The Modern Courtyard House*, p. 10.

public and private open spaces.

Another important value of the courtyard house is its high degree of expansibility. Hilberseimer⁵ explored this feature widely in all his L-shaped courtyard houses developed in many parts of northwest Europe. The houses could be enlarged little by little according to space needs of the family, and be built of standardized parts. From 1930 onwards the courtyard houses designed by Ludwig Hilberseimer were laid out with footpath access -- a pattern which became a standard practice in courtyard housing schemes for several years. The Yoruba traditional compound has been criticized as being largely accessible only by pedestrian footpaths especially in the inner areas of the towns. The reason for the pattern is in part due to the needs of the people, their mode of movement which was largely by foot, their economic capability which did not provide for the majority with the means to own a vehicle, their preference for high level of interaction (walk-stop-talk-walk), and safety for children and women.

The atrium of the Roman house was not so much of a courtyard as the main hall of the house, with an opening in the roof to admit light, which was called an impluvium.⁶ The European courtyard housing was developed out of the Garden City movement as a new type of mass housing for lower-income groups. According to Macintosh, new courtyard forms were created, not to evoke a Mediterranean atmosphere, but rather to make the most of a northern climate, to ensure privacy, and to facilitate housework.⁷ The approach to mass housing with courtyards in Europe after the First World War was radical and socialistic; it strengthened the feeling of social responsibility, fulfilled the demands of the hygienists, and the wishes of the housewives who felt more secured doing the house chores -- cooking, washing, and drying clothes -- in an enclosed space.⁸

The courtyard house was a post-war development in Britain. Frank Perry designed one of the first courtyard housing to be built in Britain. He grouped different house types, each

with courtyard, into clusters which, when repeated, gave the scheme an interesting appearance.⁹ The most common layout of the courtyard housing has been a dense rectangular one with a low penetration of roads and small public open spaces. With few windows facing the pedestrian paths, a very quiet, low-keyed public environment is created, which is quite different from that of the typical street. David Jones calls this pattern "an alien casbah effect" while discussing the role of the court house in urban renewal.¹⁰ Example of this pattern is the Albertslund in Denmark (1963) with 986 L-shaped units. It had a well articulated system of access roads, paths and public open spaces with density at 134 ppha. Two courtyard housing schemes were built in Dundee and Prestonpans in Scotland between 1962 and 1965. The 45 single storey courtyard houses built at Inchview, Prestonpans, East Lothian, in 1962 were designed by the University of Edinburgh Architectural Research Unit¹¹ which also designed the 82 single storey courtyard houses built at Blackshade, Dundee. These two schemes are referred to again in following chapters.

Yoruba compounds are the equivalent of the Spanish, the American and the Muslim patio houses, as well as the Greek and Roman atrium houses. "Patio" is a Spanish word for courtyard. The Spanish patio house was introduced to the United States during the Spanish Colonial Revival in Southern California (1895-1930) (see fig. 13). Macintosh observes that the patio house was generally suited to the climate of Southern California. The thick adobe walls and small windows keep the interiors cool, the extended layout allows cross ventilation, and shady verandahs and patios facilitate outdoor living.¹²

The summary of the foregoing is that courtyard houses all over the world (see figs. 12 - 15) have been found to be restful, secluded, peaceful, highly secured, sheltered from intruders, have ample privacy, promote social cohesion, are climate-oriented or responsive,

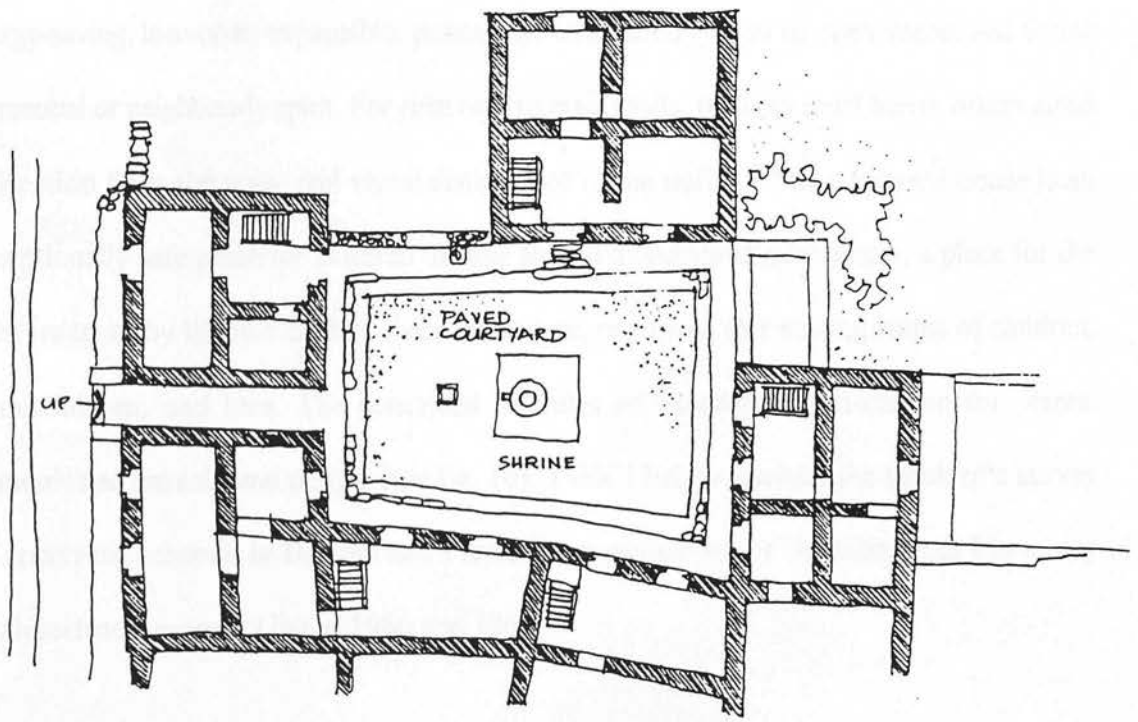


Fig. 14: A typical Nepalese Courtyard House.

Source: Aranha, J. L., 1991, "A Comparison of Traditional Settlements in Nepal and Bali," *Traditional Dwellings and Settlements Review*, 2(2), p. 43.

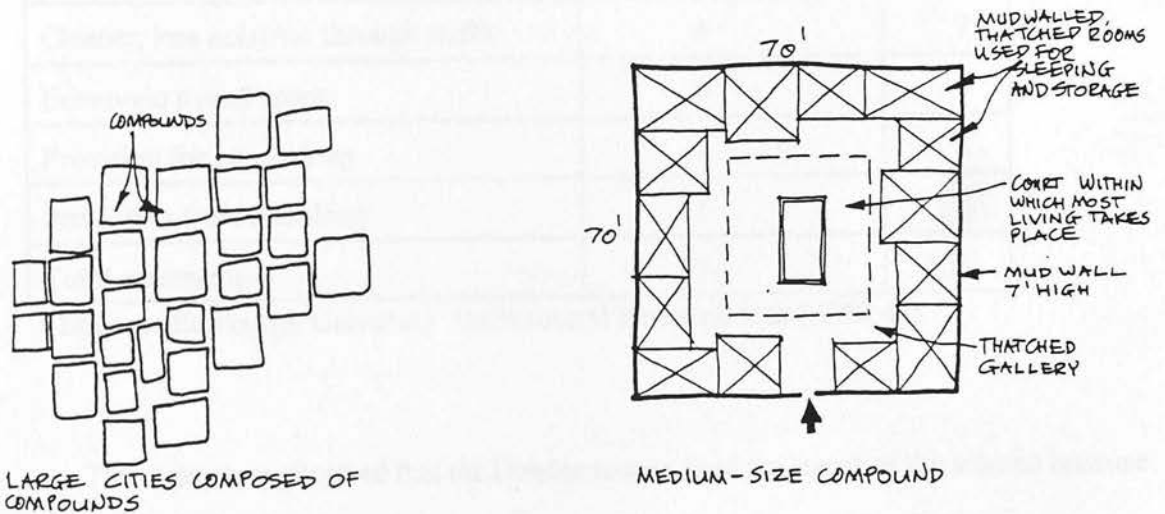


Fig. 15: Yoruba compounds and their organization

Source: Rapoport, A., 1969, *House Form and Culture*, p.39

energy-saving, low-cost, expandable, possess an articulated system of open space, and foster communal or neighbourly spirit. For sites next to main roads, the courtyard house offers good protection from the noise and visual disturbance of the traffic.¹³ The courtyard house is an exceptionally safe place for children to play and, in Yorubaland particularly, a place for the oldsters to enjoy the rest of their lives in the care, company, and waiting hands of children, grandchildren, and kins. The courtyard provides an excellent micro-climate for plants, domesticated animals, and people (see fig. 16). Table 1 below presents the result of a survey of courtyard schemes in Dundee and Prestonpans carried out by the Edinburgh University Architecture Research Unit in 1966 and 1968.

Table 1: Advantages of the Layout of Dundee's Courtyard Scheme in Scotland.

Feature	No. of Respondents	%
Safer for children/no through traffic	30	53
Grass & planted areas attractive	13	23
Safer for children/courtyard garden	5	9
Cleaner, less noisy/no through traffic	4	7
Economic use of space	3	5
Provision for car parking	1	2
Protection from inlooking	1	2
Total comments	57	100

Source: Edinburgh University Architectural Research Unit (1968:45).

The researchers observed that the Dundee tenants liked the layout of the scheme because children were safe from vehicles; it gives economic use of space; and the scheme was cleaner and less noisy; "the majority of informants just under three-quarters (33) could think of no disadvantages connected with the scheme's layout".¹⁴ However, the survey revealed that the housebound residents (the old and infirm) of the courtyard houses in Dundee and Prestonpans

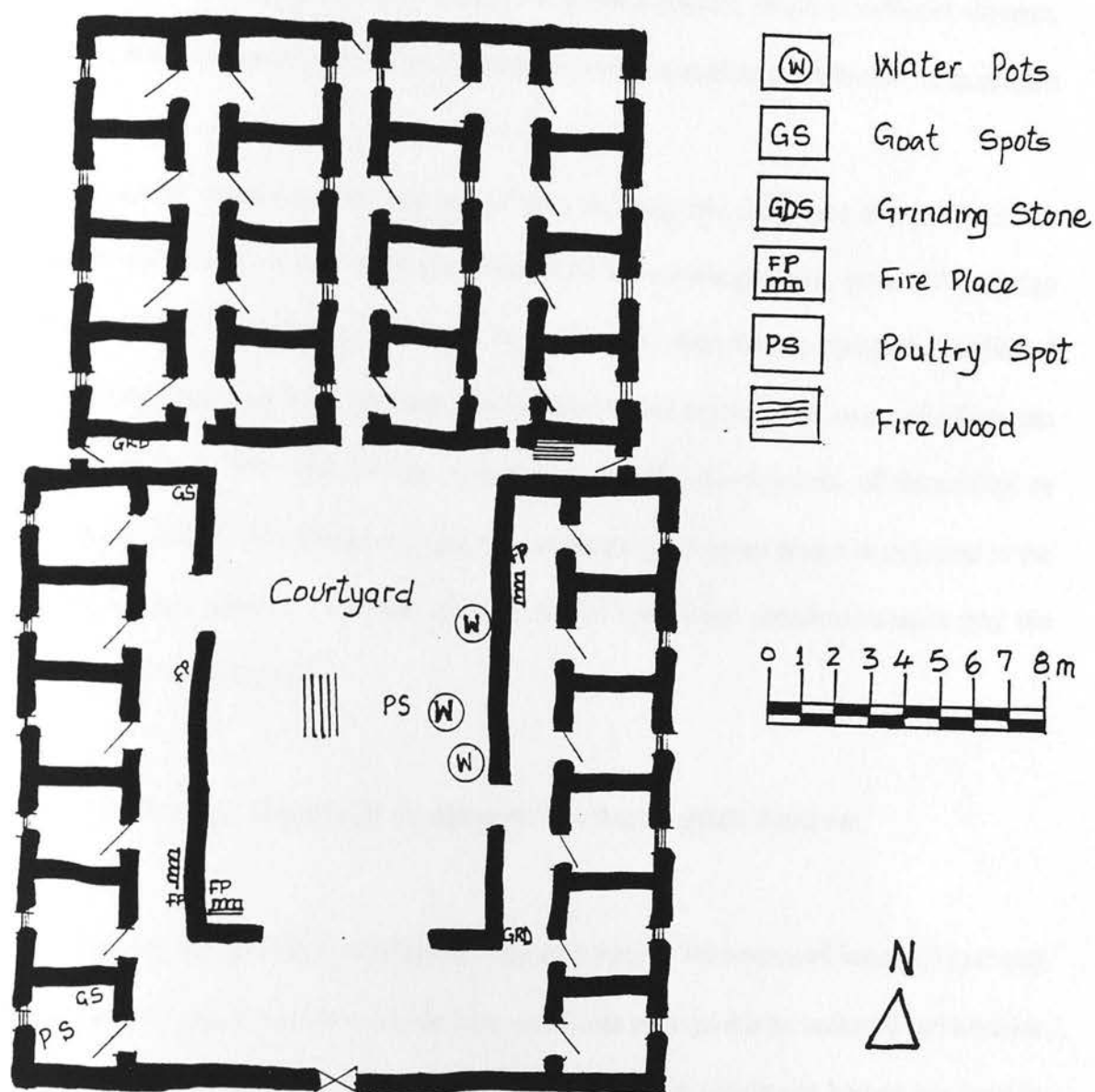


Fig. 16: The plan of Olulade compound, Koso 1, Ward 3, Iseyin (PHC 01/006/606).

This compound has a total of 27 rooms but has no distinct kitchen, toilet, and a bathing space.

Source: Author's field measurements, 1996.

did not like living in courtyard houses because they felt lonely and cut-off from the outside world. In addition, some householders at Prestonpans would have liked to be able to keep an eye on their cars from the house. It needs to be pointed out that people in different climates, regions, socio-economic, cultural, and even political class would react differently to courtyard housing.

Aspinall observes that "the layout of a building can...influence the potential for supervision or control, and affect the potential for encountering others...good urban design involves the design of spaces which will be used and in which there is always the likelihood of encountering others."¹⁵ Jan Gehl also reminds us that simply being aware of others can reduce anxiety, and can be the springboard for the development of friendship or neighbourhoods.¹⁶ The Yoruba compounds constitute good urban design as reflected in the conscious but subtle design and effective use of their inner corridor/passages and the courtyards which they link.

4.1 The Yoruba Traditional Compound: Its Characteristic Features

Macintosh¹⁷ identifies the following characteristics of the courtyard house: (1) privacy which is the key quality of the courtyard house; (2) the courtyard is as enclosed and intimate as any room of the house; (3) it is a good source of light (courtyard houses are used in northern cold climates to allow sunlight to penetrate into the rooms); (4) connection with the weather and plants; (5) the centre of the dwelling; (6) it facilitates life out of doors; (7) free from being overlooked by neighbours; and (8) shut off from the noise of the public world.

As stated earlier in this thesis, the traditional residential unit among the Yoruba is the compound, *agbo ile*. Lloyd¹⁸, Ojo¹⁹, Schwab²⁰, Krapf-Askari²¹, Masood²² are some of the scholars that have written on this house type. The Yoruba compound, with its spacious inner

courtyard, acts as the principal meeting/relaxation arena especially in the evenings when all have returned from their work places. Children engage in moonlight plays and mothers tell stories to them while the male adults exchange pleasantries.

Afolabi Ojo identifies some of the well-known characteristics of Yoruba architecture including the fact that the Yoruba compound provides space for residence, for craft-making, for storage, and for relaxation.²³ The compound is characterized by legibility, simplicity of design and maintenance, functionality, flexibility, high additive quality, and easy comprehension, speedy completion through communal assistance/participation (*oowe*) or mutual collective labour freely offered on 'loans', and 'paid back' through reciprocation. It should be mentioned here that compound life extends beyond the compound walls. The attributes of the Yoruba compound can be summarized as:

- informal layout;
- social acceptability;
- aesthetic quality and sensory richness;
- enhancement rather than destruction of ecological equilibrium;
- harmony with surrounding;
- busy street life and multiple uses;
- ease of expansion; and
- the fact that it allows for higher physical identity.

Table 2: Characteristic Features of Yoruba Traditional Compounds in Iseyin

Features	Frequency	%
Local construction materials	32	24.6
Availability of courtyard	31	23.8
Many rooms (roomy nature)	13	10.0
Space for shrines of deities	10	7.7
Large passages/corridors	7	5.4
Low construction costs	7	5.4
Small-sized rooms	7	5.4
Simple design & secured outlook	6	4.6
Large resident population	5	3.8
Small windows	5	3.9
Historical/cultural materials	3	2.3
Long length of compounds	2	1.5
Unplastered walls.	1	0.8
Lack of toilet and kitchen	1	0.8
Total	130	100.0

Source: Author's Field Survey, 1996

Table 2 above presents the characteristic features of the Yoruba compound as identified by the Compound Heads interviewed. The most striking feature of the compound as perceived by the respondents is the local materials with which the compound is constructed. It is perhaps the most outstanding feature which easily differentiates the compound from modern houses. The second most glaring feature is the enclosed courtyard which provides space for social and cultural activities and also houses the residents' deities. Most compounds possess several rooms (though small in size), hence some of the respondents refer to it as "roomy." The lack of toilet and plastered walls are the least features identified by the residents and this confirms the negative attitude of the Yoruba to "living with faeces" (see figs. 16 & 17).

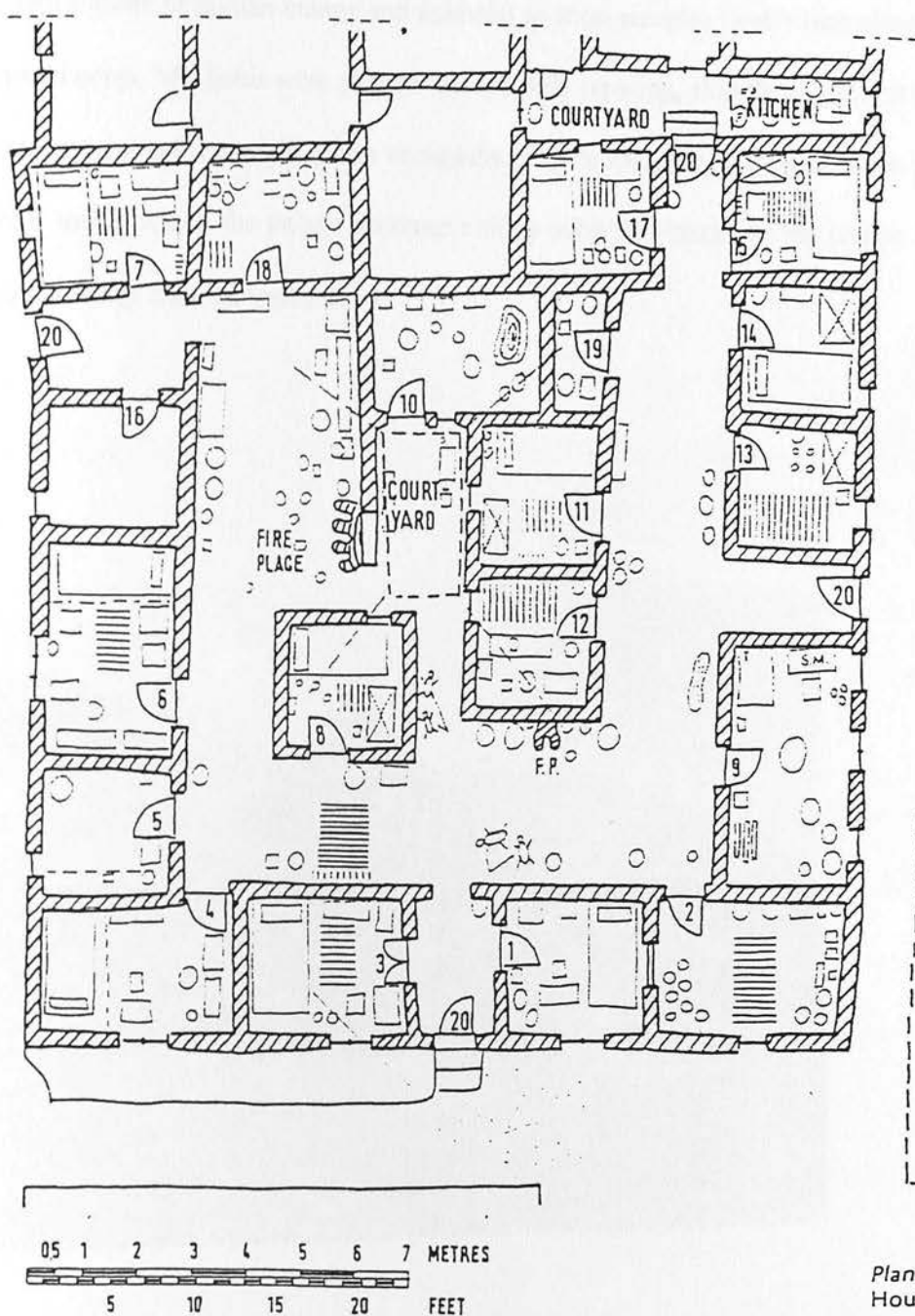


Fig. 17: A traditional compound in Ibadan.

Source: Schwerdtfeger, F. W. (1982), op. cit., p. 146

The compounds of the Kings, chiefs and the nobles had front verandahs and projected porches. The porches were usually supported by either a wall or well decorated/carved timber pillars (with figures of human beings and animals) to form steeples (*kobi*) (see plate 1). As Dmochowski notes, "the kobis were shaped like strongly tapering, sharply pointed pyramids; their bases intersected the roofs of the verandahs." ²⁴ The entrance to most Yoruba palaces had a *kobi* under which the palace drummers sit to usher in visitors to the palace. It also serves as a waiting area for visitors.



Plate 1: A typical *Kobi* (entrance/reception) recorded at Akogun compound, Ile-Ife. This is a common feature in the compound of most traditional chiefs in Yoruba traditional settlements. Here the local drummers are usually seated to usher in visitors.

4.2 Determinants of the Compound Form

Buildings satisfy physical needs -- security from animal and human foes, and protection from the elements. But buildings are improved only by the influence of spiritual and intellectual factors: the organized collaboration of human beings, knowledge of technology, and the creation of ideological and religious convictions.²⁵ Susan Denyer informs us that in all but a few cases, African traditional architecture was created without the aid of architects or even specialized builders.²⁶ Ujam observes that builders, under difficult conditions, exhibit detailed knowledge of the forms, materials and micro-climate of their area; they know the absorbent, reflective and other characteristics of local materials for maximum comfort and their resistances to rain and snow. This is evident in the way they care about orientation and site under all kinds of weather conditions and at all times of day.²⁷

The responsibility for the design of Yoruba compound was that of the Compound Heads (CHs) and other adult members of the extended family as shown in table 3 below. The twenty-seven people in the traditional building practices interviewed were asked who usually designed the compound. Their responses were: elders in the family (37.5%); builders or masons (*molemole*) (31.3%); carpenters (*kanlekanle*) (6.3%); both *molemole* and *kanlekanle* (6.3%); and others (18.6%). The question of who designed the compound was also posed to the CHs interviewed; their responses are in table 3 below. From the two tables it can be observed that the design of the traditional compound is the responsibility of elderly members of the extended family. The next category of people involved are the builders because of their experience. It should be noted that the builders are also part of the family and so they are playing a double role here.

A crosstabulation was run to determine the relationship between the age of residents and

participation in the design of compounds. The test gave a chi-square value of 41.0 and a significance value of .01 (where $p < .05$). This confirms that age significantly influence participation in the design of compounds. The elderly ones are the ones involved and any policy on future design of houses in the society should recognize this aspect. However, the youths should start to get involved since they are the ones that will take over from the elderly.

Table 3: Designers of Traditional Compounds in Iseyin as Identified by the Compound Heads Interviewed.

Designer	Responses	%
Founder of the compound only	26	34.2
Founder & other family members	21	27.6
Elderly males in the family only	11	14.5
Builders within the family	9	11.8
Builders from outside the family	9	11.8
Total	76	100.0

Source: Author's Field Survey, 1996

Another crosstab ran showed that religion has no influence on design of compounds. The chi-square value obtained was 14.5 with a significance of .26 (where $p < .05$).

The compound heads were asked to identify the factors that determined the design of the *agbo ile*. Their responses reveal that group spirit and togetherness was the dominant factor followed by the need for security, privacy, climate, and cost. As discussed earlier in this thesis, most Yoruba traditional settlements were founded by people acting in groups: groups of hunters, farmers or priests. The Yoruba are community-oriented people and they cherish communal living. This is reflected in the house form and this is what table 4 below is emphasizing.

Table 4: Factors Determining the Design/Form of the Compounds

Factors	Responses	Percent
Group spirit & togetherness	70	52.2
Group & individual security	39	29.1
Privacy	14	10.5
Climate	8	5.9
Building cost	2	1.5
Other factors	1	0.8
Total	134	100.0

Source: Author's Field Survey, 1996

The factors determining the form of Yoruba compound are described in detail in the following paragraphs.

4.2.1 *Climatic Conditions*

The climate of Yorubaland was extensively discussed in an earlier part of this chapter. The designs of Yoruba traditional architecture were determined most of the time by the natural conditions of a given area, as well as the climate. The rectangular and inward looking pattern of the compounds was a response to local climate. In the Yoruba compound, the requirements imposed by climate were met by the thick clay walls, the large enclosed courtyards, the mud-layered bamboo ceilings, and small window openings. The courtyards are used to induce the flow of air, and in combination with the thick walls, coolness is achieved. The not-so-wide gaps between compounds provided the required cover for people as they walk through these air-spaces from one part of the neighbourhoods to another (see plate 12).

4.2.2 *Socio-cultural and Economic Requirements*

The socio-cultural philosophy of the Yoruba people greatly influenced both the physical patterns of their settlements as well as the form of their compounds. The compound was the focal point of group social interaction and relationships, religious rituals, spiritual development and the local crafts. The economic status of the founder of the compound also influenced the size of the compound; while a common man would have a courtyard, a wealthy person, chief or warrior might have two or more courtyards. Isichei notes that the ideal that the Yoruba express in their architecture is a desire for an intensively involved participation in social, family, and personal affairs, along with the need for security and privacy.²⁸ The enclosed form of the compound is reflected in one of the stanzas of the Ifa corpus:²⁹

I build a house around you, Ifa	[<i>Ifa, mo kole yi o ka</i>]
So you can build a house around me	[<i>Ki o ba le kole yi mi ka</i>]
So you can let children surround me	[<i>Ki o ba le f'omo yi mi ka</i>]
So you can let money surround me	[<i>Ki o le ba jeki owo yi mi ka</i>]

The above *odu Ifa* confirms the communal and group living attitude and practice of the Yoruba as clearly reflected in the morphological structure of their towns and the residential unit- *agbo ile*. *Odu ifa* are the verses that *Ifa* priests (*babalawo*) recite during *ifa* divination. During any divination, the *babalawo* (diviner) will cast down onto his *ifa* board (*opon ifa*) two chains of palm kernels (*ekuro ifa*) and cowries (*owo eyo*). Some of the cowries and kernels will face up while others will usually face down. There are over 256 possible positions for the way the *ekuro ifa* and *owo eyo* will land on the *opon ifa*, and for each of the positions there is a lengthy verse (*odu ifa*) which the *babalawo* would recite to explain what has been revealed to the *babalawo* from the divination. This will be interpreted to any supplicant who asked the *babalawo* for spiritual guidance over any sort of problem. Divination³⁰ is very basic in the day-by-day life of the traditional Yoruba society including the founding of towns or

laying the foundation of a new house or taking occupation of the house, choice of wife/husband, and the naming of a new child.

4.2.3 *Available Building Materials*

As earlier stated in this thesis, the traditional Yoruba compound is composed of local materials including earth walls, forest timbers for the roof frames, and thatched roof consisting of grass and broad leaves. These materials were cheap and easily adaptable to the desired pattern or form of the *agbo ile*. The materials were locally and readily available, and the people did not have to travel any far distance to obtain the suitable laterite soil for the walls of the buildings. The timbers used (hard woods, forked wooden posts or branches, bamboo, palm and coconut trees) were sustainable as the people grew them on their farms and in the preserved forests (plates 3 & 4). The plasticity of the swish-mud gives it a ready medium for the creation of patterned decorations on the walls of the compounds. This is not to say, however, that the *agbo ile* in its characteristic form can not be constructed of modern materials, especially cement blocks for the walls, sawn-timbers for the roof frame, and corrugated iron sheets or tiles or asbestos for the roof. In fact, this is currently the picture in most settlements in Yorubaland. As Carroll³¹ informs us, by 1947 burnt bricks were a common material for building houses, churches and schools. The bricks were made from earth with a low clay content and were fired in clamps at quite low temperatures (50°F).

Ujam reminds us that architecture is an affair of material, the true use or needs of which influences the style which is created from the qualities of the material that are utilized. He discusses in great detail the place of local building materials on the success of vernacular architecture. He observes that what led to the success of vernacular building forms is both the cognitive values of their constituent elements and the full realization of the natural properties



Plate 2: A section of the inner courtyard in Aseyin's palace. This is where all visitors to the palace are received. The concrete columns seen in the picture are a recent construction which replaced the original mud columns.



Plate 3: A carved door at the main entrance to the main courtyard in Aseyin's palace.

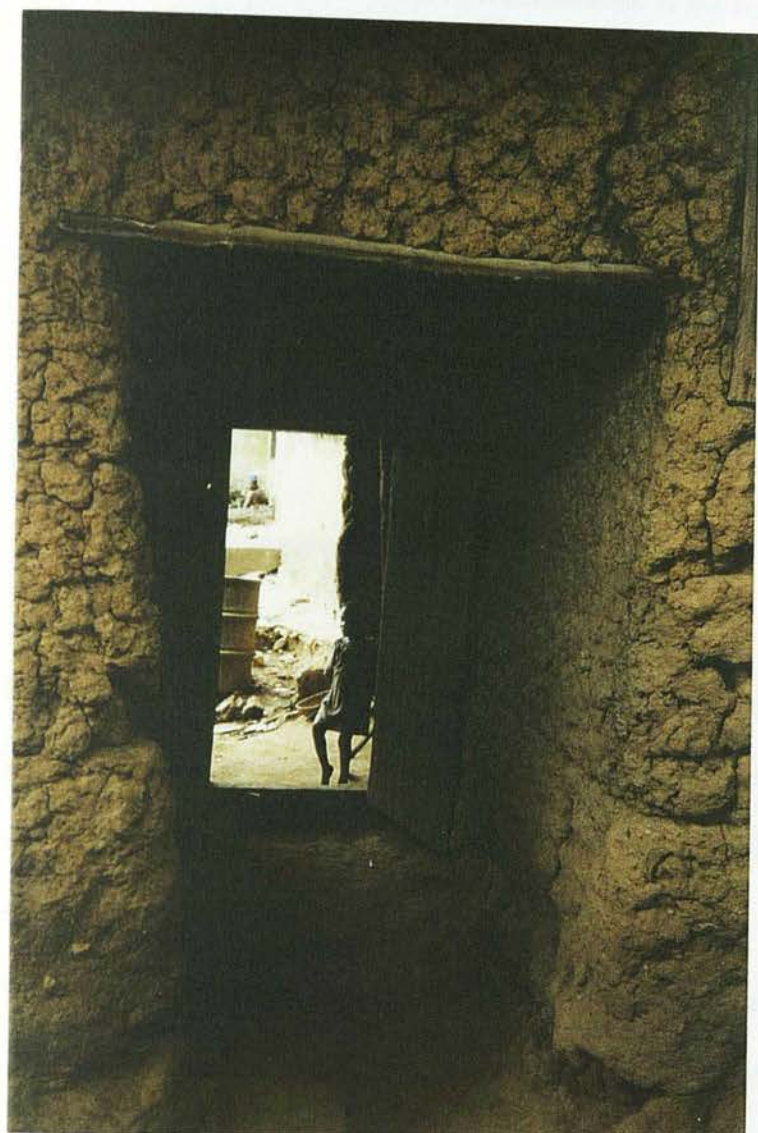


Plate 4 The entrance lobby into Onilefon compound, Oke-Eyin area, Ward 6, Iseyin. Note the use of bamboo for lintel. The bamboo is so strong that it is able to support the two layers of swish-mud on top of it for more than 60 years.

of their materials familiar to the builders.³² Ujam notes further that:

local building materials, taken from the environment of the settlement, require no calculations which technological building materials require today. Reed, thatch, brick, stone, clay and wood have an extremely different impact on man than do the present manufactured materials. Man stores a profound knowledge of natural materials which enables him to handle them according to innate properties that cannot be changed and are usually accepted; such properties are stratification, grain, density, response to load, thermal capacity, absorption, elasticity, shear, moisture, ag[e]ing, hardness and so on. Successful design of a building should then depend on a familiarity with these properties which come from long observation and also across long processes of inherited knowledge communication.³³

4.2.4 *Local and Sustainable Technology*

The founders of early Yoruba towns experimented with a number of materials and construction techniques, perfected them over time, and then settled down for the form of the compound. The local builders understood the chemistry of the building materials they used (see plate 4).

They also developed appropriate working tools. The sense of community which underlies the life of the Yoruba and which was reflected in the grouping of buildings to form a compound was emphasized in the construction process.

4.3 Strengths and Potentials of the Traditional Compounds

Vernacular buildings offer concrete virtues, appropriate application of a material to its uses, extending its range and exploiting its capacity but not forcing it to behave in a manner inappropriate to its nature.³⁴ One of the important strengths of the traditional compound is its protection against what Dunham calls "the environmental temperature".³⁵ The internal

courtyard encourages heat loss from the living area of the house in the form of out-going radiant heat. In the hot season, this is of great significance.

The mud wall reinforces the cooling quality of the courtyards. These walls absorb and store heat during the day (keeping the inside of the house cool) and release the heat gradually during the night when the atmospheric temperature has dropped, thereby keeping the house warm. In addition, its thickness has been found to be an invaluable asset in terms of defence. As will be shown in the survey analysis in Chapter Five, respondents claimed that the mud walls repel gun shots as they do not allow bullets to penetrate. On the virtues of earth walls, Ujam notes the following:

One important reason which underlies the feeling of security provided by walls is familiarity with their materials, particularly when left in their native condition so as to exhibit their authentic colours, textures, pattern of construction and maybe their smell. Materials like stone, brick, wood, straw, and mud are certainly easily perceived with an immediate familiarity owing to stored schematic knowledge which induces in people an obsession and intimate feelings towards buildings constructed with these materials...these 'natural' materials...produce structures, in particular walls, which are rigid, strong [and heavy so as to withstand stresses of wind and other destructive forces] and persistently connected with earth so that their articulation and distribution are thoroughly determined according to purposeful pattern. On the contrary, industrialized walls are paper look like and are articulated as if according to arbitrary or abstract thoughts but not to concrete human purposes.³⁶

This study found out the advantages of living in *agbo ile* from the Compound Heads (CHS) in the 76 compounds surveyed, who identified fourteen items as presented in table 5 below. Togetherness/sense of belonging/unity of purpose constitute the greatest advantage (36.4%) that the respondents claimed to derive from living in the compound. Residents are able to interact intimately and act in unison over matters bordering on the welfare of all. By living together the compound residents are able to share ideas, exchange opinions on various matters and offer assistance to one another readily. The courtyard and the wide corridor provide the much needed space for social interaction. The Compound Heads also said that by

living in the compound they were able to be closely linked with their ancestors many of whom were buried within the compound (see figs. 18 - 20).

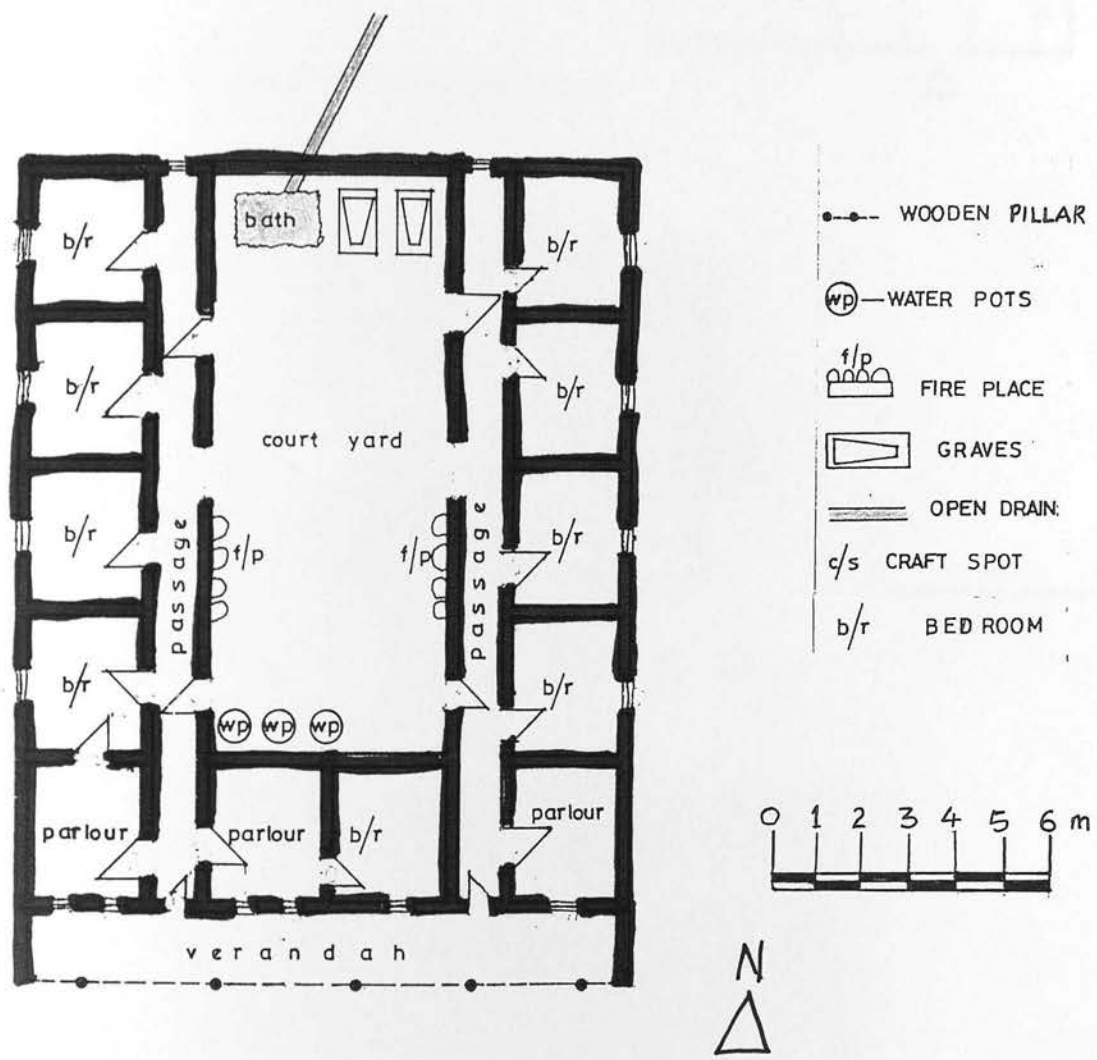


Fig. 18 Plan of Eleede Compound, Koso 2, Ward 4, Iseyin (PHC 01/006/316). Note the graves within the courtyard and how bath water is drained away from the compound.

Source: Author's field measurements, 1996.

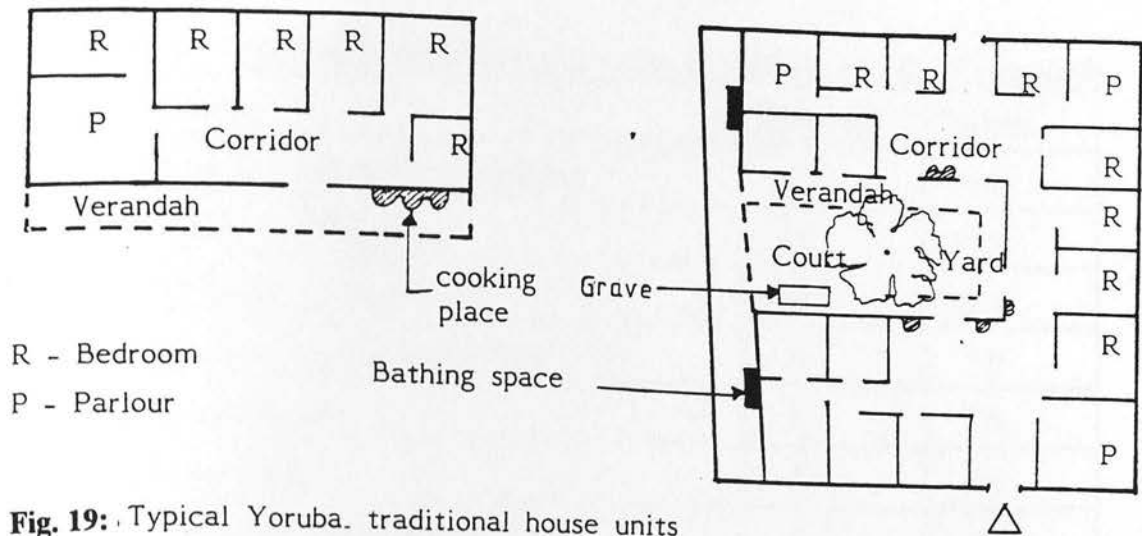
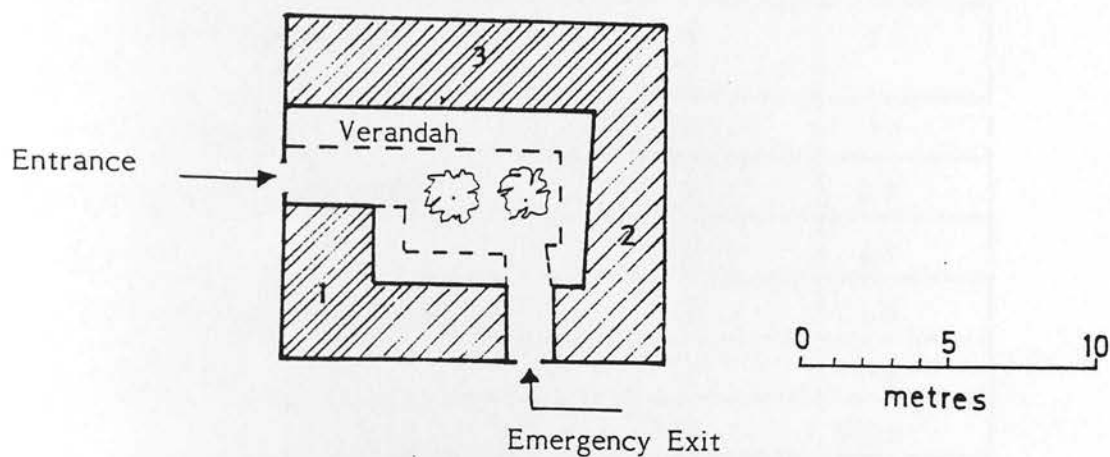
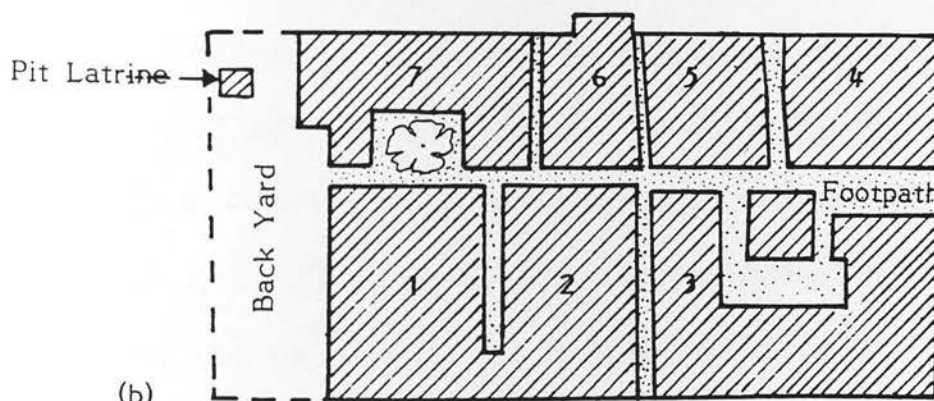


Fig. 19: Typical Yoruba traditional house units



(a)



(b)

1-7 are house units

Fig 20: Typical Yoruba traditional residential compounds.

Note that the outer walls are not straight in some cases. It shows that many compounds are not perfect squares or rectangles.

Source: Wahab, W.B., 1984, "The Pattern of Change in the Yoruba Traditional Residential Quarters," p. 6

Table 5: Advantages Derived by Compound Heads From Living in Compounds

Advantages	Responses	Percent
Togetherness/unity/sense of belonging	47	36.4
Sharing ideas and opinions	18	13.9
Adequate space for interaction	13	10.1
Contribution to family development	9	7.0
Link with ancestors	8	6.2
Adequate safety	7	5.4
Coolness inside the building	5	3.9
Courtyard for sleeping, festivals, and socialization & drying clothes	5	3.9
Ceiling available for goods storage and preservation	4	3.1
Peaceful environment	4	3.1
No segregation between residents	3	2.3
No rents paid	3	2.3
Mobilization of people for group activities	2	1.6
Symbol of Culture	1	0.8
Total	129	100.0

Source: Author's Field Survey, 1996

The question of what is considered as the advantages of the *agbo ile* was asked from those who are involved in traditional building construction in Iseyin, as well as from other members of the society including town planners, architects, public health personnel, and barbers in Ibadan, whether or not they had ever lived in an *agbo ile*. The result is very striking as the advantages identified were similar to those given by the Compound Heads. This is shown in table 6 below.

Table 6: Advantages of the Traditional Compound as Identified by Members of the Public (Professionals) Interviewed in Ibadan.

Advantages	Responses	%
Social/family cohesion	27	24.6
Simple & cheap to build/maintain	16	14.6
Promotes affection	15	13.6
Coolness	14	12.7
Foster understanding	13	11.8
Help-rendering among members	11	10.0
Security to life & property	7	6.4
No loneliness	3	2.7
Character development/discipline	2	1.8
Accommodates all classes of people	2	1.8
Total	52	100.0

Source: Author's Field Survey, 1996

The traditional compound as a house type has a strong potential in modern day Yorubaland and in Nigeria as a whole. A substantial number of the people, especially the poor members of the society who live in the rural areas, (who incidentally constitute a large percentage of the population), will continue to build the mud-walled compounds. At the same time there will be an increase in the use of modern building materials (especially cement for wall plastering, and electricity connection) to improve the quality of these buildings to enhance their performance. The more important of the potentialities lies in its courtyard concept which is already gaining popularity in big cities such as Ibadan, Lagos, Oyo, Osogbo, Abeokuta, Iseyin and many other medium-sized settlements. In these places, the courtyard houses are being built of modern building materials including cement blocks, corrugated iron roofing sheets, asbestos ceiling sheets, with adequate provision for built-in toilet, bathroom and kitchen. As noted by Carroll, "traditional building is still relevant to modern Nigeria and

to modern architecture." ³⁷ Moughtin makes a very valid observation:

The survival of the courtyard plan is still a distinct possibility for it serves the Nigerian's domestic purpose better than the western pavilion home set in its own garden. Incidentally the courtyard plan for a given building volume is a more economic use of space and a system some are suggesting for the West.³⁸

Hassan Fathy remains one of the strongest advocates of people's architecture. He suggests that the use of mud and the employment of local skills is the only real way of producing buildings priced to suit the common person.³⁹

4.4 Weaknesses of the Traditional Compound

The mud wall which many scholars and the residents of the mud compound saw as a great advantage was what Carroll observes to be a disadvantage. She states that

mud...has two serious disadvantages: it is easily eroded by rain and it is not resistant to termites. Mud walls can be protected from rain by verandas or by over-hanging roofs, by giving them a very smooth finish, by painting them with gums, or by a regular recoating with mud plaster. Termites can be put at bay by continuous habitation, by the smoke of cooking fires, or by the smouldering logs kept in sleeping huts.⁴⁰

One would like to emphasize here that the Yoruba identified the same disadvantages listed by Carroll and through continuous experimentations have proffered solutions to them. In most traditional compounds cooking is done along the inner part of the wall separating the rooms from the courtyard; the compound is provided with a verandah and adequate eave projection; the inner parts of the walls are constantly smoothened with a mixture of indigo leaves and dungs as mentioned elsewhere in this thesis; termites are repelled completely from a compound by simply burying a dead dog at the foot of the outside wall of the compound.⁴¹

Hassan Fathy makes a similar observation on mud brick. He notes that "thick mud brick walls are not a perfect means of keeping cool, for although mud is a poor heat conductor, it

retains heat for a long time. Thus the wall that keeps you cool all morning has actually been taking in and storing up all the heat that falls upon it, and all through the night it will radiate this heat out again, partly into the room." ⁴² Fathy goes further to state that this temperature regime may be modified if the house is built around a courtyard.

Carroll notes that the expansion and contraction rates of mud and cement plaster in heat and humidity are different, and there is no real cohesion between them. After some exposure to weathering, particularly when rain enters through hairline cracks, large pieces of plaster may fall off.⁴³ This observation is valid and there are several instances of this situation. However, it needs to be mentioned that improper mixing of a poor ratio of cement, sand and water by bricklayers wanting to cheat on materials (especially cement) is the principal cause. Examples abound of several mud buildings plastered in the 1930s in Iseyin which are still in very stable condition.

Writing on the disadvantages of mud houses, Elizabeth Isichei observes that a mud house is cool, but in traditional building the window apertures were small, perhaps because of the problems involved in making them, and much of life was spent in the open air. Like all building materials, they had their characteristic disadvantages. The flat clay roof of Hausaland have been known to collapse in the rainy season, if not carefully maintained, and a thatch roof harbours insects and presents a fire hazard, especially if lightening strikes.⁴⁴ It was usual to find a fresh mud wall shrinking and at times giving way if a heavy rain fell within twenty four hours after the wall was put up. To get over this problem, the society tried to avoid constructing their mud houses in the rainy season, when they did, they tried to cover the fresh layer of wall with plastic bags, palm fronds, used corrugated roofing sheets, and any other available covering material.

The lack of toilets and bathrooms and distinct kitchens (see fig. 21) is one of the major problems of the traditional compound as revealed in the survey carried out (see table 7). This

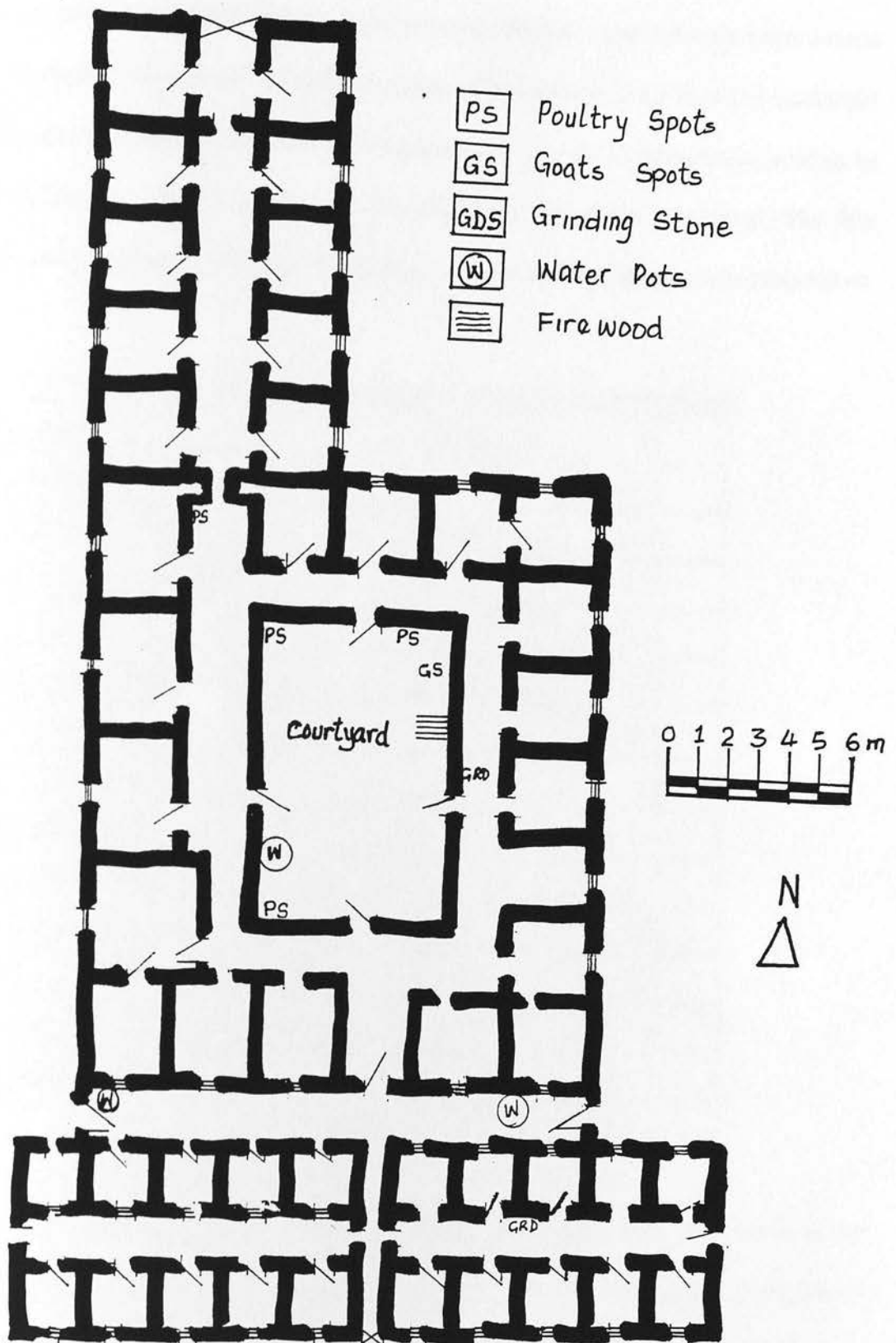


Fig. 21 The plan of Alaoro compound, Koso 1, Ward 3, Iseyin (PHC 01/005/087). This is another example of compounds with many sleeping rooms ("roomy compounds"). It has 47 rooms but neither a bathing space nor a toilet within it.

Source: Author's field measurements, 1996.

issue is presented in the next chapter. Lack of sanitary facilities constitutes the major reason for the movement of many “modern” members of the society away from the traditional compound. In order to verify the various weaknesses of the mud compound as identified by various scholars, empirical data were obtained from the survey conducted. The fifty professionals interviewed in Ibadan identified thirteen disadvantages shown in the table below.

Table 7: Disadvantage of traditional compound as identified by professionals.

Disadvantage	Responses	%
No individual privacy	22	25.3
Large resident population	13	14.9
Lacks sanitary conveniences	13	14.9
Unattractive	11	12.6
Cracks on unplastered walls	6	6.9
Thatch roof susceptible to fire hazard	5	5.8
Easy spread of disease	4	4.6
Noisy environment	3	3.4
Inadequate ventilation	3	3.5
Land degradation through excavation	2	2.3
Presence of domesticated animals	2	2.3
Requires frequent maintenance	2	2.3
High family responsibilities	1	1.2
Total	87	100.0

Source: Author’s Field Survey, 1996

Lack of individual privacy is what the members of the public interviewed gave as the greatest disadvantage of traditional compound. What some of them mean by lack of privacy include the fact that residents cook in the same fire place and use the same bathroom. Much as there is a high level of interaction among the compound residents, one observes that once a person enters his or her room there is absolute privacy. Although people eat their food

within the inner corridor of the compound, a person may chose to eat in the room. Except for people who live in self-contained flats, residents in apartments and the "Brazilian" houses do not seem to have any more privacy than what is obtained in the compound because facilities are used jointly by all residents. Large resident population is another disadvantage identified by the respondents in the same proportion with lack of toilets. Over 12% of the people felt that the compound is unattractive. The least disadvantage identified is the high extended family responsibility which this research observes as a factor that is driving young people away from their ancestral compounds.

4.5 Endnotes

1. See Schonauer, N. and S. Seeman (1962). *The Court Garden House*. Montreal: McGill University Press, p.3.
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3. Ibid., p.4-4.
4. For more information on the socio-ecological relevance of the courtyard house see D. Macintosh (1973). *The Modern Courtyard House*. London: Lund Humphries Publishers. p.7.
5. See Hilberseimer (1929) quoted in Macintosh, D., op.cit., p.31.
6. Brion, M. (1960). *Pompeii and Herculaneum*. New York: Crown Publishers.
7. Macintosh, D., op.cit., p.27.
8. Ibid.
9. Ibid., p.38.
10. Jones, D. (1961). "The Role of the Court House in Urban Renewal." *Keystone* (Summer).
11. Edinburgh University Architectural Research Unit (1966). *Courtyard Housing, Inchview, Prestonpans*. Edinburgh: The Architectural Research Unit, University of Edinburgh.
12. Spaulding, S.M. (1931). "The Patio is Logical for California", quoted in D. Macintosh, op.cit., p.11.
13. See Noble, J. (1968). "Housing: The Home in its Setting." *Architects Journal*, Vol.11.
14. Edinburgh University Architectural Research Unit (1968) *Privacy and Courtyard Housing*. Edinburgh: The Architectural Research Unit, Edinburgh University. p.46.
15. See Aspinall, P. (1993). "Aspects of Spatial Experience and Structure." In B.Farmer and H. Louw, *Companion to Contemporary Architectural Thought*. London: Routledge. pp.334-341 (p.339).
16. See Gehl, J. (1980). "The Residential Steel Environment," quoted in P. Aspinall, op.cit., p.337.
17. Macintosh, D., op.cit.
18. Lloyd, P.C. (1955). "The Yoruba Lineage." *Africa*, 25, No.3, pp.235-251; and (1962) *Yoruba Land Law*. London: Oxford University Press.

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23. Ojo, G.J.A., op.cit.
24. Dmochowski, Z.R. (1990). *An Introduction to Nigerian Architecture*. London: Ethnographica. p.2-4.
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26. See Denya, S. (1978). *African Traditional Architecture*. New York: Africana Publishing Co., p.4.
27. See Ujam, F.R.A. (1987). "Ecology, Culture and Cognition." Unpublished Ph.D. Thesis, Heriot-Watt University, Edinburgh. p.215.
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29. Vlach, J.M. (1976). "Affecting Architecture of the Yoruba." *African Arts*, (October), pp.48-53 (p.51).
30. For more information on Ifa divination among the Yoruba see Abimbola, Wande (1976). *Ifa: An Exposition of Ifa Literary Corpus*. Ibadan: Oxford University Press.
31. Carroll, K. (1992). *Architecture of Nigeria*. London: Ethnographica. p.7.
32. See Ujam, F.A.R., op.cit., pp.287-298.
33. Ibid., pp.287-288.
34. Ibid., pp.288.
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36. Ujam, F.A.R., op.cit., pp.301-302.
37. Carroll, K., op.cit., p.4.
38. Moughtin, J.C., op.cit., p.76.
39. Fathy, H. (1973). *Architecture for the Poor*. Chicago: The University of Chicago Pres., pp.37-41.

40. Carroll, K., op.cit., p.7.

41. The technique of repelling termites by simply burying a dead dog by the wall of a building is the author's observation. A scientific explanation is not yet available.

42. Fathy, H., op.cit., p.46.

43. Carroll, K., op.cit., p.9.

44. Isichei, E., op.cit., p.270.

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CHAPTER FIVE

5.0 The Town of Iseyin

The ancient town of Iseyin is located 96 kilometers north of Ibadan (the capital of Oyo State) and 43 kilometers north-west of Oyo town (Fig. 7). It is the capital of Iseyin Local Government Area of Oyo State (fig. 22) and occupies a central position in an area that includes districts like Ado-Awaye, Ipapo, Akinwunmi, and Osoogun. The town lies between latitude $8^{\circ} 3\frac{1}{2}'N$ and longitude $3^{\circ} 37\frac{1}{2}'E$ of Greenwich. Situated in the midst of hills. Iseyin derives its historical significance from the Ebedi Hill. Natives of Iseyin are referred to as *Omo ebedi* (the offspring of Ebedi).

The founding and early development of Iseyin, an urban centre (Fig. 7) with a population comparable to many others in the former Western Region (see table 9), was no way different from the process already described in Chapter Three. Like all other Yoruba towns, Iseyin traces its origin to Ile-Ife. It was founded by Prince Ogbolu who, after a long adventure from Ile-Ife with his followers, finally settled at Iseyin, probably in the early 15th century, where he found the type of vegetation (savannah) which favoured his pastime of hunting. Before Ogbolu arrived in what is now Iseyin, history had it that he made a first stop besides a stream in Ijebuland and the small town that later sprang up in the area is today known as Odo-Ogbolu (Ogbolu stream). In response to the internecine wars that were then threatening the security of many Yoruba communities, Ogbolu soon moved to an area in Abeokuta, near the present site of Orile-Ilugun. Indeed, the chroniclers claimed that the first Alake (title of Egba kings) of Egbaland was one of the followers of Ogbolu.

Interviews in Iseyin carried out as part of this study suggest that the earliest settlers to Iseyin, apart from Ogbolu, came from different parts of Yorubaland including the Aaba

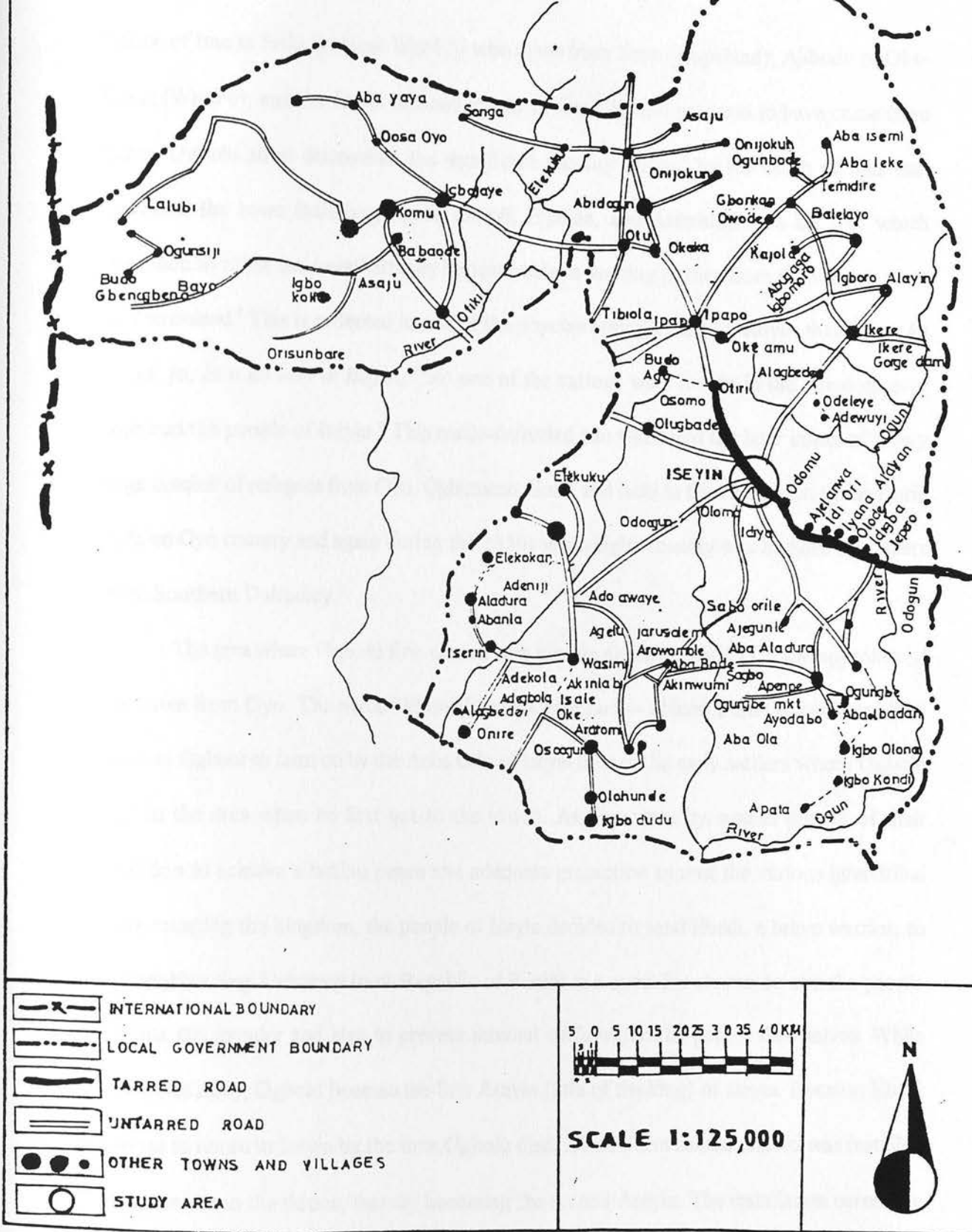


Fig. 22: Iseyin in its Local Government Setting.

Source: Oyo State Ministry of Information, Ibadan, 1994.

Odofin of Itan in Isalu (present Ward 5) who came from Tapa (Nupeland); Ajibode of Oke-Esa in (Ward 6), and the Jagun of Ilado (Koso 1, Ward 3) who was said to have come from Ijebu. Ogbolu soon discovered the significant security offered by the chain of hills that surround the town including Ebedi, Oluofi, Eyinjue, and Atamafon (see fig. 26) which combined to make the town virtually impenetrable to warring parties from the various parts of Yorubaland.¹ This is reflected in one of the popular saying of Iseyin natives that "*ogun ko ja, ja, ja, ki o ko won ni Iseyin*," "no one of the various wars fought in the kingdom ever captured the people of Iseyin." This easily-defended site witnessed the later influx of a very large number of refugees from Oyo, Ogbomoso, Ilorin and Saki in the 1830s during the Ilorin raids on Oyo country and again during the 1850s when Egba country was invaded by raiders from Southern Dahomey.²

The area where Ogbolu first settled was Ekunle quarter (Ward 1) at the approach of the town from Oyo. The name "Ekunle" means backyard -- coined from the backyard land given to Ogbolu to farm on by the Aaba Odo of Iseyin (one of the early settlers whom Ogbolu met in the area when he first got to the town). As time went by, and in pursuit of their ambition to achieve a lasting peace and adequate protection against the various inter-tribal wars ravaging the kingdom, the people of Iseyin decided to send Ebedi, a brave warrior, to the neighbouring Dahomey (now Republic of Benin) in a quest for charms to arm the people against any invader and also to prevent internal strife within the people themselves. While Ebedi was away, Ogbolu became the first Aseyin (title of the king) of Iseyin. Because Ebedi was yet to return to Iseyin by the time Ogbolu died, Ebedi's son named Oluwo was installed the successor to the throne, thereby becoming the second Aseyin. The installation ceremony for Oluwo was still going on when Ebedi returned from his mission in the present Republic of Benin with a train of followers, including slaves and goods. Ebedi learnt about his son's installation as he got to the town's gate. The Yoruba tradition demands unalloyed loyalty and

obeisance to the king by everyone of his subjects including the king's parents. Rather than for Ebedi to have to prostrate for his son who was then the ruling *Oba*, he, Ebedi, decided to transform himself along with his three slaves into the four hills which are seen surrounding the town until today -- the hills being Olu-Ofi, Eyinjue, Atamafon, and Ebedi.

From that moment until the present, all ruling Aseyin have been worshipping on Ebedi hill. Any unrest or outbreak of epidemic is traced by the people of Iseyin to the wrath of Ebedi and an appeasement in the form of sacrifices is generally believed to restore peace to the town.³ Furthermore, whenever any Aseyin dies, he is buried at the royal cemetery called *igbo-itan* (a royal forest in Itan area in Isalu Ward). From Ogbolu there has been a total of twenty-seven *Aseyin* that have ruled in the town, the last of them being His Royal Highness, the late Oba Moshood Osuolale Adeyeri II, who ascended the throne in 1979 and died in November, 1996.

Land use activities in Iseyin (table 8) are dominated by residential use, which covers 69.33% of the total land area. This is the characteristic feature of most settlements in Nigeria. Commercial land use covers 0.57% and consists of the town market, the various quarter/neighbourhood markets, the local government shopping complex, banks, petrol filling stations, professional offices, and various retail shops lining all the major roads throughout the town. Industries in Iseyin make up 0.46% of the land area. They are mainly the service and small-scale industries including corn-mills, saw-mills, printing press, cassava processing, soap-making, strip-weaving industry, black-smithing, gold-smithing, auto-repair works, electronics, tailoring, hair-dressing, pottery, and wood-carving among others. The public and semi-public or institutional land use covers 2.32% of land and includes the local government secretariat and various other government offices, hospitals, clinics, places of worship (churches, mosques, and shrines), fire station, police station, schools, post and telecommunication, the palace, and town hall among others. Agriculture is still the mainstay of the economy of the

town as a large proportion of the citizens keep farms and cultivate crops such as maize, yam, cassava, guinea-corn, beans, groundnuts, melon and vegetables.

Many scholars, including Lloyd ⁴, Bray ⁵, Dodwell ⁶, Wolff and Wahab ⁷, have described Iseyin as a centre for the production of narrow-strip woven cloth (*aso oke*). A large proportion of the residents engage in this traditional textile industry. The traditional compound, *agbo ile*, forms the organizational framework for the weaving industry⁸ to the extent that the extended family *agbo ile* "is the unit of production for the weaving and for the intermediate process of spinning and dyeing. The place of residence is also the workplace, whether there is a row of fixed looms in the central open space of a compound or a single portable loom alongside the house." ⁹

Table 8: Analysis of Land Use in Iseyin as at November, 1994

Land Use	Area in Hectares	% of Total
Residential	1,943.81	69.33
Open space	642.65	22.92
Circulation	123.23	4.40
Public/semi-public	65.12	2.32
Commercial	15.84	0.57
Industrial	12.89	0.46
Total	2,803.54	100.00

Source: Dauda, S.A., (1996). "Problems of schemes preparation and implementation in Iseyin townshp (1976-1995)." Unpublished Diploma Dissertation, The Polytechnic, Ibadan. p. 44

Before the recent growth of many towns into huge urban centres, Iseyin was considered one of the largest towns in the area that was then known as the Western Region of Nigeria. Rev. T. J. Bowen ¹⁰ in 1855 during his tour of Yorubaland estimated the population of Iseyin at 20,000 while he put that of Ibadan at 70,000; Lagos at 20,000; Iwo at 20,000; Ogbomoso at 25,000, and Oyo at 25,000. The 1952 population census of Nigeria gave Iseyin a figure of

49,680 (which ranks it among the first twelve large settlements, the rest being Ibadan, Lagos, Ogbomoso, Osogbo, Ile-Ife, Iwo, Abeokuta, Oyo, Ilesa, Ede, and Ilorin ¹¹ (see table 9), while that of 1963 put the figure at 95,220.¹² According to the 1976 projected figures of population by the Oyo State Ministry of Local Government & Information, Iseyin township population, with a growth of 3.2% per annum, was put at 134,448¹³ (see fig. 23). The 1991 population census in Nigeria has remained “uncompleted” as no authentic and official figure has been released on any settlement in the country.

Table 9: Population of Twelve Largest Yoruba Towns in 1952.

Settlements	1952 Census	1931 Census	1921 Census	1911 Census
Ibadan	459,200	387,100	238,100	175,000
Lagos	276,400	126,100	99,700	73,800
Ogbomoso	139,500	86,700	84,900	80,000
Osogbo	122,700	49,600	51,400	59,800
Ife	110,800	24,200	22,200	36,200
Iwo	100,000	57,200	53,600	60,000
Abeokuta	84,500	45,800	28,900	51,300
Oyo	72,100	48,700	40,400	45,400
Ilesa	71,800	21,900	----	----
Iseyin	49,700	26,800	28,600	33,300
Ede	44,800	52,400	48,400	26,600
Ilorin	41,000	47,600	38,700	36,300

Source: Krapf-Askari (1969:35), op cit.

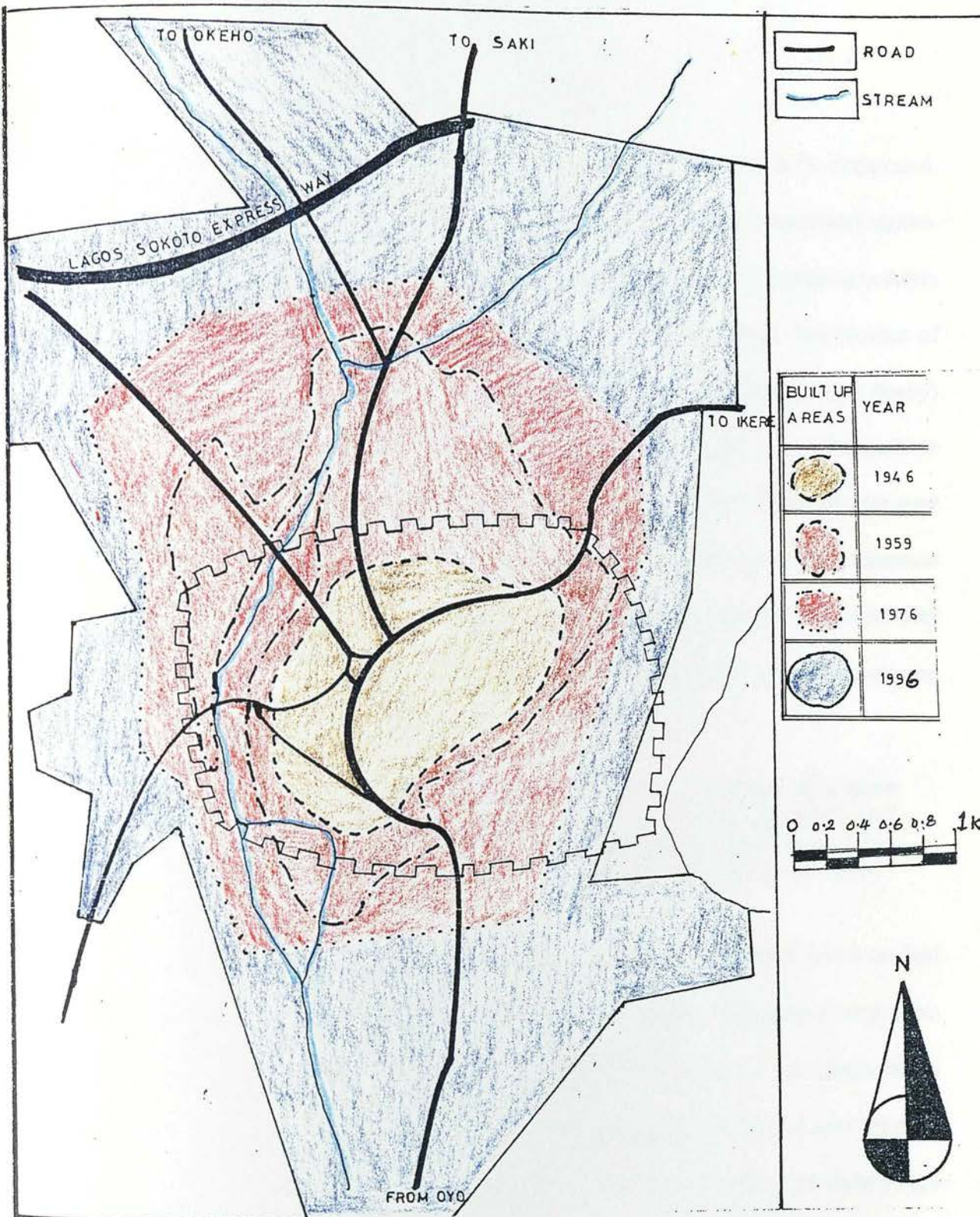


Fig. 23 Map Showing the Growth of Iseyin from 1946 to 1996

Source: Adapted from Azeez, R. A., 1995, op cit., p.112

5.1 The Traditional Compound in Iseyin

The Traditional residential unit in Yorubaland, the focus of this study, is the compound, *agbo ile*. The traditional compound is generally rectangular in shape and sometimes square. It consists of rooms on all sides arranged to look onto the courtyard. The sleeping quarters lead off from the verandah and are seldom more than one room deep. The number of individual building units (figs. 19 & 20) or segments (which is occupied by a single family) forming a compound vary enormously. In Isalu quarter of Iseyin, Wahab¹⁴ notes that perhaps the largest compound in terms of space and population is Agbo-ile Oke Babamaja with over 350 rooms. Compound sizes and fission, the splitting of compound units into numerous smaller units, are a function of space. Mabogunje¹⁵ notes that the smallest compound may cover about 0.2 hectare of land; whereas the compounds of chiefs may cover several hectares.

Fadipe gives a concise description of the plan of the *agbo ile*:

The whole collections form a hollow square enclosing a rectangular open space in the middle. A verandah, which opens on to this quadrangle, runs right round the compound and unlike the rooms behind it is undivided by any partition so that the inmates can walk from one end of the compound to the other under cover.¹⁶

Rooms are provided with suspended shelves (*pepe*) made out of bamboo which are laid along each breadth of the rooms at about 1.52m from the floor or just high enough to prevent children from reaching them. Breakable ceramic plates (*awo tanganran*), ornaments, beads (*ileke iyun*), and other valuables are usually kept there. On the floor directly below the *pepe* is a raised mud platform, *itage*, of between 0.229m (9 inches) and 0.457m (18 inches) high providing space for clay cooking pots (*isasun amo*), pans/plates (*awo, abo ijeun*), fruits (*eso igi*), vegetables (*ewebe*), and other ingredients for preparing meals. At one end of this platform, by the entrance to the room, is buried (wholly or partly) a clay pot (*ikoko amo*) containing drinking water. This arrangement is repeated in all the sleeping rooms in one

compound with little variation in the quality of items. Some rooms have a second *pepe* at the inner end of the room (*isale ile*) on which round or rectangular boxes (*bembe*) made of metal sheets, or baskets woven from raffia or palm fronds (*apere, agbon*) containing clothes are placed. Along one length of the sleeping room is often found a small space used as a fireplace in cold months, especially during the harmattan period when the north-east trade winds -- dry, cold and dusty -- blow in a south-westerly direction across the country. The fireplace is particularly important for a nursing mother to keep her new baby warm from the day of delivery throughout, at least, the first forty days.

In the survey, the courtyards also vary in size from 35.8 square meters in Ajisebiolowo compound (fig. 24), Okesuna quarter (Ward 7), to 3.75 square meters in Oriade compound (fig. 25), Malete quarter in Koso 2 (Ward 4). Light and air are received from the open courtyard around which the house units are built as in the early types of buildings of the Romans and Greeks¹⁷ and in many Egyptian houses¹⁸. Ujam also notes the use of the courtyard in Iraq to trap cool air into the house and allowing the air to flow into the rooms around the courtyard while heated air from the rooms of the courtyard rises up.¹⁹

5.2 Survey Administration and Data Analysis.

The methodology used for this research was extensively discussed in Chapter One. Collection of primary data was also stated including the contents of the questionnaires prepared and administered, sample selection and procedure. This section elucidates on the strategy adopted for the management of the survey. The field assistants used in any particular ward were residents of that ward. This was deliberate as it made it much easier to enlist the

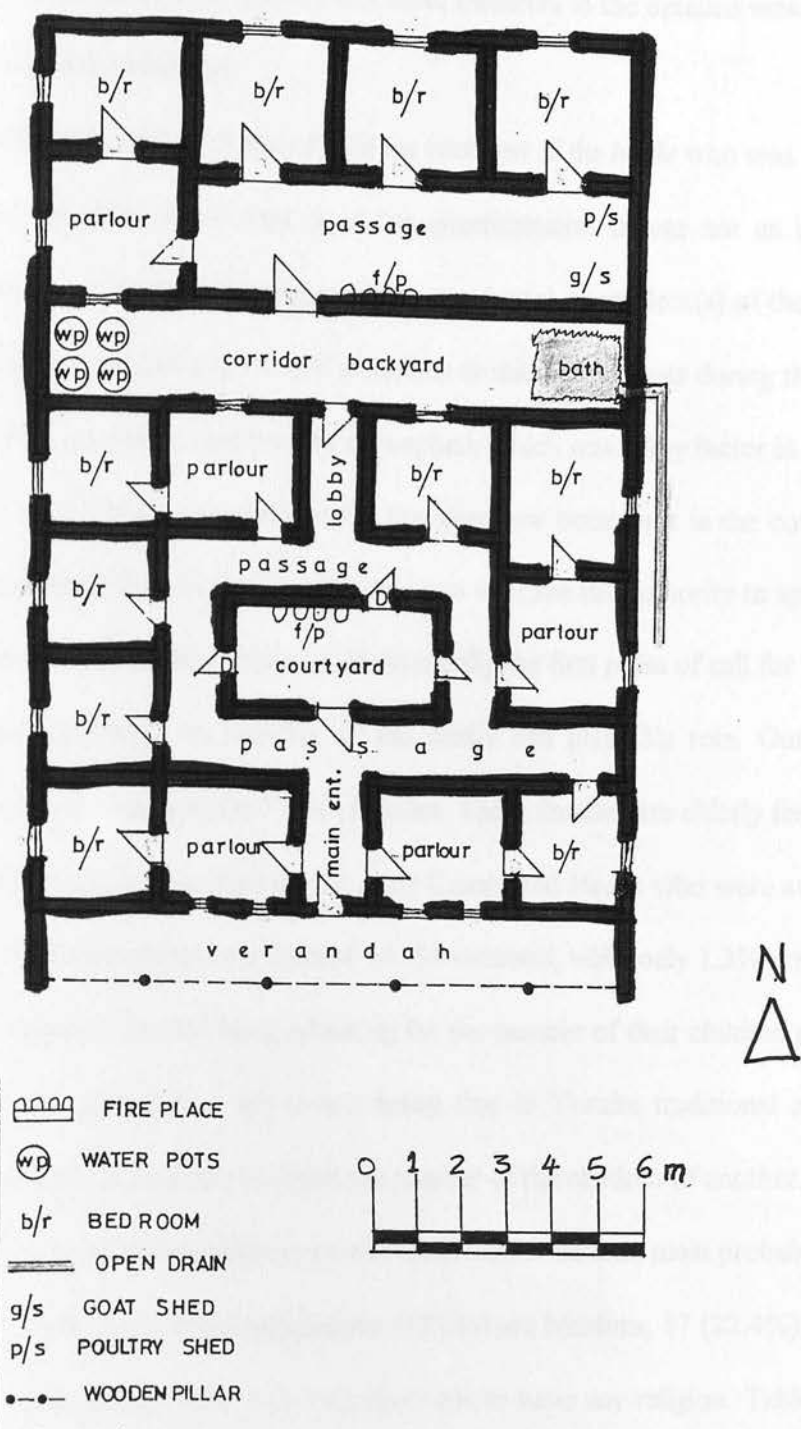


Fig.25: Oriade compound, Maleté, Koso 2, Ward 4, Iseyin (PHC 01/006/397). In this compound cooking take place within the passage and also in the courtyard. It has a bathing space but no toilet. Goats and chickens are being kept within the compound.

Source: Author's field measurements, 1996.

support of the Compound Heads (*baale*) and other members in the detailed measurement of all features in a given compound.

The survey in each compound started with the interview of the *baale* who was encouraged to respond to the questions in Part A of the questionnaire. It was not an interviewer-dominated exercise, rather the *baale* and any other member(s) or resident(s) of the compound present at the survey were allowed to ask questions or make comments during the course of the interview. This provided a very cordial atmosphere which was a key factor in the success of the survey. The *baales* were chosen for the interview because it is the convention or practice in the society that the *baale* is the only one who has the authority to speak for and on behalf of the residents of his compound. He is usually the first point of call for any visitors and unless he authorizes, no member of the family can play this role. Out of the 76 respondents, 69 were males while 7 were females. These females are elderly females in the compounds who were holding fort for the male Compound Heads who were away in their farms. 84.2% of the respondents are married, 14.5% widowed, while only 1.3% are separated. They all have children, but the issue of asking for the number of their children posed some difficulties as was expected -- the reason being that in Yoruba traditional society it is considered improper for a person to count the number of the children of another. The figure for children that each of the respondents gave could therefore be less, most probably, than the actual number. Forty-four of the respondents (57.9%) are Muslims, 17 (22.4%) Christians, 14 (18.4%) traditionalists, while 4 (1.3%) claim not to have any religion. Table 10 below shows the age of the respondents.

Table 10: Age of the Compound Heads interviewed in Iseyin

Age in Years	Number of Respondents	Percent
41 - 45	3	3.9
46 - 50	4	5.3
51 - 55	6	7.9
56 - 60	19	25.0
61 - 65	14	18.4
66 - 70	16	21.1
71 and above	14	18.4
Total	76	100.0

Source: Author's Field Survey, 1996

Asked for their highest educational level, the survey revealed that 44.7% of the respondents had no formal education; 17.1% had Koranic education; 3.9% had adult education; 5.3% primary school education; 3.9% attended modern school; 6.6% had a secondary school/grade II teacher education; 7.9% attended a college of education; 5.3% each had a polytechnic, and university education. Their occupations ranged from farming (39.8%), to weaving (15.8%), lumbering (1.3%), trading (18.4%), gold-smithing (2.6%), professional consultancy (9.2%), contracting (2.6%), alternative medicine (1.3%), clergy/priest/imam (1.3%), and financial management (6.6%). However, only 67.1% of them are still in full employment, 11.8% claimed to be under-employed, while 21.1% have retired.

The interview was followed by measurement of the entire compound, including the inside of rooms. Ground plans of compounds were measured with measuring tapes -- a method Dmochowski²⁰ calls the "plane-table survey technique" used in his 1988 work on Nigerian traditional architecture. Photographs of key features were then taken. Table 11 below contains the break-down of the compounds surveyed by wards.

Table 11: Distribution of Compounds in Iseyin and the Rate of Decline per Ward.

Ward No./ Survey Zone	Ward Name	No. of Compounds Still Intact	No. of Compounds Already Ruined	No. of Compounds Surveyed	Compounds surveyed as % of intact
1	Ekunle 1	32	38	9	28.1
2	Ekunle 2	0	89	0	0
3	Koso 1	23	54	8	34.7
4	Koso 2	32	27	11	34.3
5	Isalu	39	85	12	30.7
6	Ladogan/Oke-Eyin	43	51	12	27.9
7	Ijemba/Oke-Ola/Oke- Oja	36	94	12	33.3
8	Imale Falafia/Adabo/ Dunmoba/Agbagi	41	24	12	29.3
Total		246	462	76	30.9

Source: Author's Field Survey, 1996

Furthermore, there was a structured interview of indigenous/traditional builders, some of whom were mentioned by some of the Compound Heads interviewed. It was painful to note that many of the traditional builders were already dead including those who specialized in roofing and door carving. It was, however, still possible to interview twenty-seven people who were experienced in the traditional building practices. Of these twenty-seven builders only 18.8% are still constructing mud houses. Twenty-five percent of them learned the trade from their fathers while 75% learned it from outside the family.

5.2.1 Spatial Distribution of the Traditional Compound in Iseyin

Table 11 above reveals the distribution of the traditional compound in Iseyin wards (fig. 27), the political and administrative units into which the town is constituted. The wards were taken as the survey zones for data collection (fig. 26). The survey revealed a total of 708 compounds in the town distributed as follows: 70 compounds in Ekunle Ward 1; 89 in Ekunle

Ward 2; 77 in Koso 1, Ward 3; 59 in Koso 2, Ward 4; 124 in Isalu, Ward5; 94 in Ladogan/Oke-Eyin, Ward 6; 130 in Ijemba/Oke-Ola/Oke-Oja, Ward 7; and 65 in Imale Falafia/Adabo/Dunmoba/Agbagi, Ward 8. The number of these compounds that were found intact (not yet collapsed and still being occupied) at the time of survey was a little above 34%. This issue will be discussed in a subsequent section of this chapter. Ijemba/Oke-Ola/Oke-Oja Ward has the largest number of compounds while the least number was found in Koso 2. One reason for the small number of compounds in Koso 2 is that it is a relatively new area of the town and contains three (the largest number) of the planning schemes of the Iseyin Local Government Planning Authority. Most of the buildings in Koso 2 area are modern ones.

5.2.1.1 *Compound Populations*

Compound populations vary widely across the land. In Oje area of Ibadan compound populations as found by Barbara Lloyd²¹ ranged from 26 to 346. In his study of 63 compounds in Ibadan, Schwerdtfeger²² found a population of between 5 and 76 with a total of 295 households and 814 habitable rooms giving an average of 17.4 rooms per compound and an occupancy rate of 20.4 persons per compound or 1.6 persons per room.

In the 76 compounds surveyed, the Compound Heads were asked for the number of rooms in their respective compounds when the compound was built. Sixteen of the respondents claimed that they did not know/remember. There was then a total of 1,049 rooms in the remaining 60 compounds which gave a mean of 17.483, that is 17.5 rooms per compound. The lowest number of room/compound was one while the highest was 50, and the one with the highest frequency was 16 rooms per compound, 11 compounds being in this category. The number of households/nuclear families per compound when the compound was built was also asked for. Thirteen Compound Heads did not know or remember. For the



Fig. 26: Map of Iseyin showing Wards/Survey Zones.

Source: Iseyin Local Government Town Planning Department, 1996

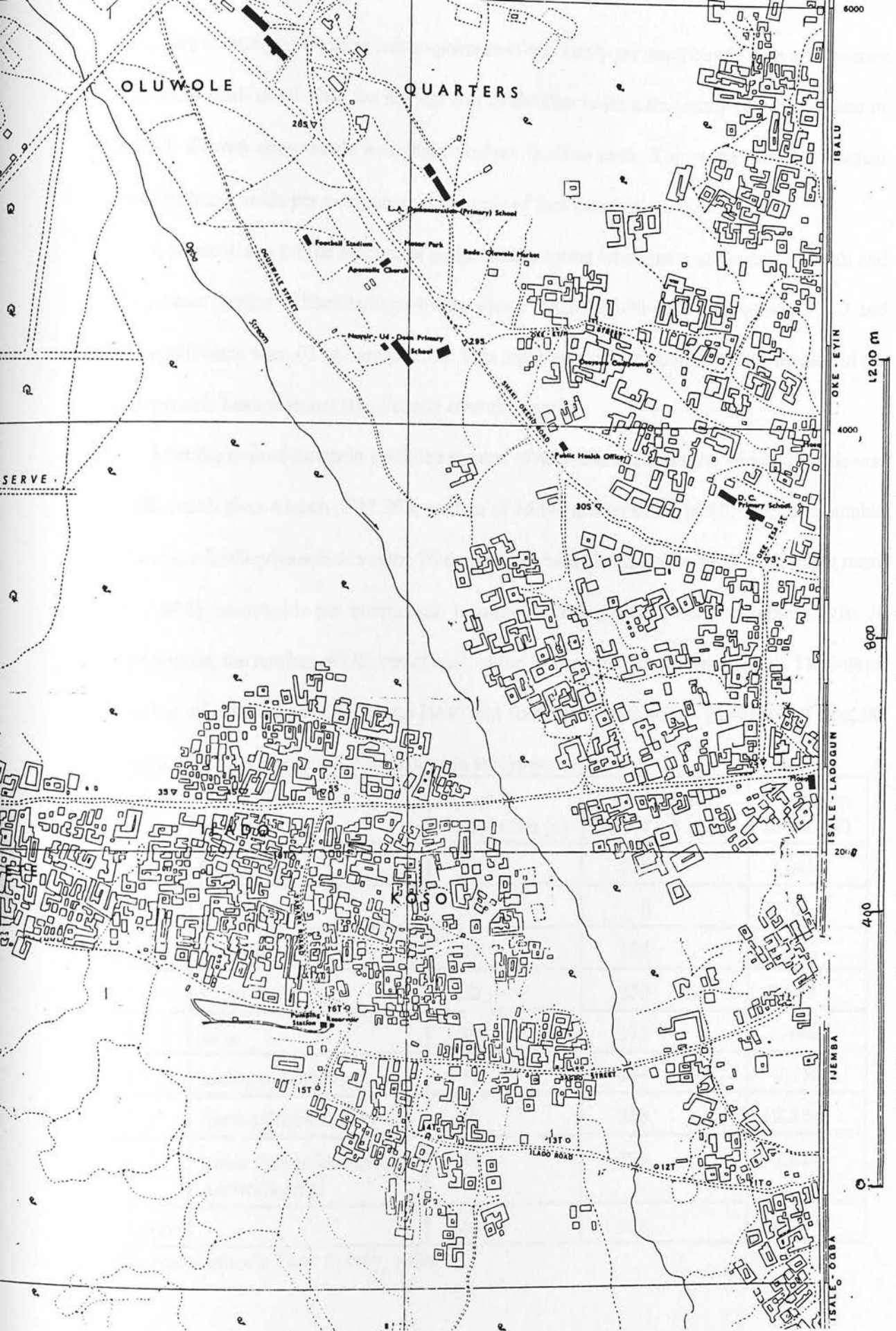


Fig 27 Map Showing Compounds in Koso 1 and part of Isalu Wards in Iseyin

Source: Ministry of Lands and Housing, Survey Division, Ibadan, 1959

remaining 63 compounds there was a minimum of one family per compound (with a frequency of 8 compounds or 12.7%); the highest was 27 families (with a frequency of 1 compound or 1.6%). Eleven compounds had three nuclear families each. The mean was 4.9 nuclear families/households per compound at the time of first occupation.

A crosstab ran on the number of households existing when the compound was built and the present number of household gave a significant result. The chi-square value was 202.3 and the significance was .03 (where $p < .05$). This confirms that the number of households in the compounds has increased significantly over the years.

As at the time of survey in 1996, the number of habitable rooms in the 76 compounds was 1,322 which gives a mean of 17.395, median of 16.00, and mode of 16.00. The total number of nuclear families/households in the 76 compounds was also found to be 608 (giving a mean of 7.908) households per compound. In order to find out the total population of the 76 compounds, the number of children of each of the Compound Heads was sought. The lowest number of children per Compound Head was found to be two with a frequency of two; the

Table 12: Compound Populations in Iseyin per Ward

Ward No.	Ward Name	No. of Compounds (c)	Household No. (h)= (c x 8 hhs.)	Population (c x h x 8)
1.	Ekunle 1	32	256	2,048
2.	Ekunle 2	0	0	0
3.	Koso 1	23	184	1,472
4.	Koso 2	32	256	2,048
5.	Isalu	39	312	2,496
6.	Ladogan/Oke-Eyin	43	344	2,752
7.	Ijemba/Oke-Ola/Oke-Oja	36	288	2,304
8.	Imale Falafia/Dunmoba/Adabo/Agbagi	41	328	2,624
Total		246	1,968	15,744

Source: Author's Field Survey, 1996

highest number was 16 children with a frequency of 2, while the highest frequency was 8 children per household. The total population of the 76 compounds is then calculated as 4,864 persons (that is, 8 persons multiplied by 608 households). Table 12 presents the calculated population for the 246 compounds that are still intact/inhabited in the town.

5.2.2 Construction of the Compound

Schwerdtfeger²³, Eades²⁴, Krapf-Askari²⁵, Lloyd²⁶, Mabogunje²⁷, Ojo²⁸ and other scholars have referred to the process of house construction in traditional Yoruba society. The

Table 13: Materials used in the Construction of 76 Compounds in Iseyin

Materials	Frequency	Percent
Swish (Lateritic) Mud	75	30.1
Bamboo	59	23.7
Teak tree	40	16.1
Thatch	15	6.0
Corrugated iron roofing sheet	13	5.2
Nails	13	5.2
Palm tree trunk/fronds	7	2.8
Leaves	7	2.8
Water	7	2.8
Sand	4	1.6
Cow dung	3	1.3
Rope	2	0.8
Stone/rock pieces	2	0.8
Mats	1	0.4
Planks	1	0.4
Total	249	100.0

Source: Author's Field Survey, 1996

traditional compounds were built of the same materials such as earth or swish-mud for walling, country wood for the roof frame, thatch for roofing (now corrugated iron roofing sheets with its characteristic intense heat radiation, tiles and asbestos sheets), sawn woods for doors and windows, cow dung (now replaced with cement) for rendering the floors and walls, splint of bamboo and mud-clay for ceilings (now replaced with asbestos cement or fire-board sheets).

Table 13 shows the various types of materials used in the construction of the 76 compounds surveyed. Mud is the commonest material (30.1%) used in the construction of the compound (plates 5-7). Next to it is the bamboo used most especially in the construction of the ceiling. Teak tree ranks third (16.1%); it is an important material for the roof frame. Mat and sawn plank are the least frequently mentioned (0.4%).

The Compound Heads, asked for the source of the materials used for construction, identified four sources as follows: within the immediate locality (79.3%), from another quarter/ward in Iseyin (4.4%); from neighbouring towns (5.4%); and imported from outside Yorubaland (10.9%). The materials said to be imported are the corrugated iron roofing sheets and nails. 98.7% of those CHs observe that most of the materials for construction were in abundance locally. All the compounds had their walls constructed of swish mud. The walls are put up in layers; 12 to 16 inches (0.305m to 0.406m) thick, and 6 to 8 feet high (1.83m to 2.44m) high. Each layer of the wall was left to dry for between three to five days after which it is trimmed or smoothened on the outside with a cutlass (*ada*) and a new layer was added. The method of constructing the walls is by no means different from what Bruce Walker observed in the North East of Scotland: "The stiff clay mix is lifted on to the wall in large dollops, where it is beaten into place, the wall surface being trimmed afterwards [with an adaze or clat] when the clay of the wall has cured to a leathery consistency".²⁹ Usually door and window frames were fixed as the construction of the walls progressed but the actual door



Plate 5 (a):

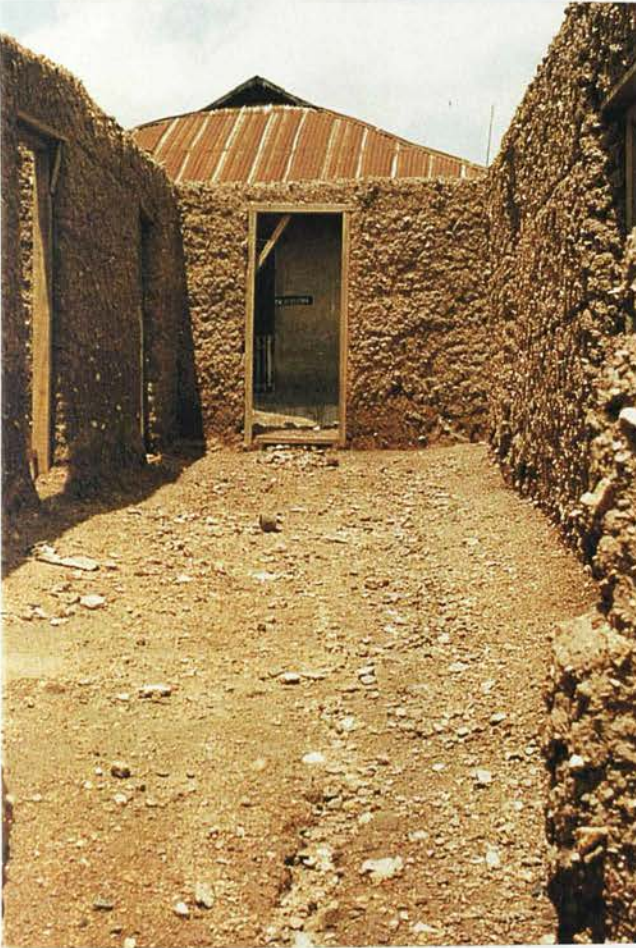


Plate 5 (b):

Plates 5 (a) and (b) show a "Brazilian" type of house being built of mud at Aruwa compound, Ijemba area, Iseyin. The construction started in January, 1997 and the pictures were taken in May, 1997. Note in plate (b) the wide passage, *odede*, separating two rows of rooms. The mud being used is part of the debris of the walls of previous compound that had collapsed on the same site.

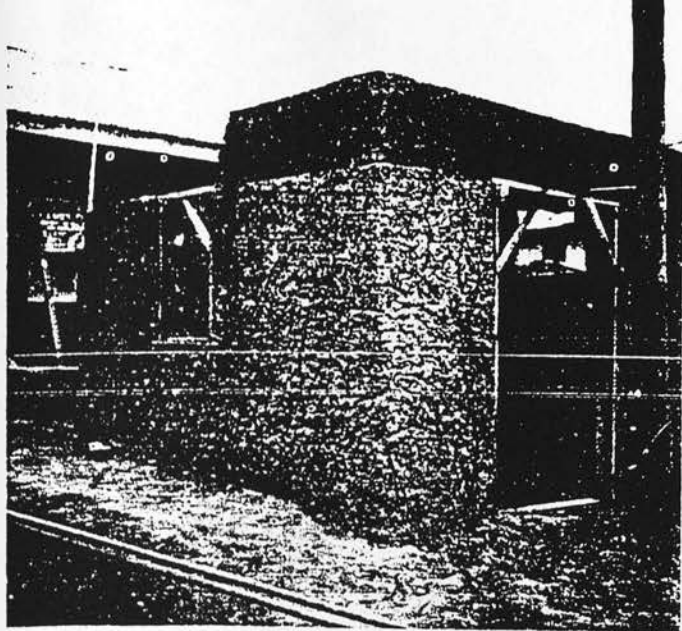


Plate 6a: Construction of mud wall in progress

Source: Schwerdtfeger, F. W., 1982,
*Traditional Housing in African
Cities*, p. 164.

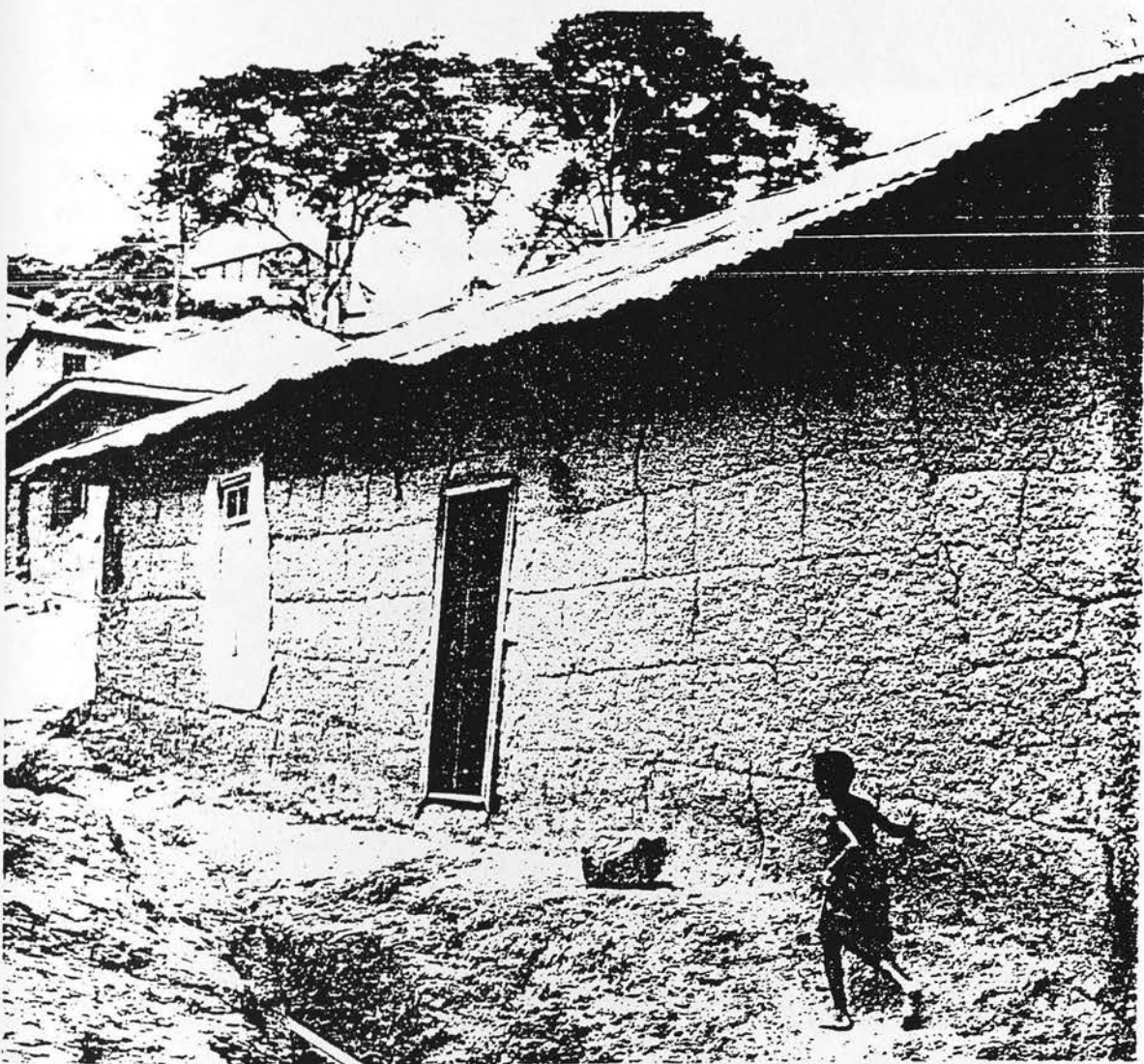


Plate 6b: A Yoruba compound showing the installation of a large window and the plastering of the inner room containing the window as evident from the edges of the new window.

Source: Schwerdtfeger, F.W., 1982, op cit., p. 100



Plate 7: One length of Kusuaro compound, Idi-Ose, Ward 8, Iseyin. The compound is said to have lasted a hundred years. Note the size of windows and the foot of the compound which is shrinking resulting from the long-term effect of rain water falling from the roof right by the foot of the compound. Further down between the trees (see fig. Below) is the communal refuse dump.



Plate 8: The large inter-compound communal space where children play and adults relax in the evening.

and window shutters might not be put on even one year after the rooms were occupied. In this case mats were used as roller-shutters to cover the windows and door ways.

The tools used by the builders to measure the various components of the construction included their legs through pacing, especially for the floor plan; eye gauge which serves as their plum to set the walls straight. The traditional builders employ also the anthropometric method whereby they use human physique or figure especially the height of the tallest person in the family to determine the breadth of the rooms and height of the ceilings. The width of a corridor or passage is determined by the length of a tallest person lying flat (fully stretched) plus another space to allow two adults standing or walking side by side. Masood Khan ³⁰ observes that the dimensions of a room in the traditional house form in Karimabad, Pakistan, are based on a human module, that is, three times the span of the outstretched arms. Cardew ³¹ marvels at the ingenuity of the indigenous builders of granaries in Gobir, Nigeria, who model a perfect dome entirely by eye and hand, unaided by any form of gauge.

The size of the rooms in the traditional compound in Iseyin, according to the builders, is determined by factors including the size of the particular household that will live in it (42%), the height of the tallest person (21.4%), the nature of activities that will take place in the room (21.4%), and size of available land (14.3%) (see plate 9). The sizes of the rooms in the 76 compounds were found to be as contained in table 14 below:

Table 14: Size of Rooms in the 76 Compounds Surveyed at Iseyin

Room Size	Frequency	Percent
Below 1.48 sq m	2	2.4
1.49 - 3.0 sq m	23	27.0
3.10 - 7.50 sq m	41	48.2
7.60 - 10.8 sq m	19	22.4
Total	85	100.0

Source: Author's Field Survey, 1996

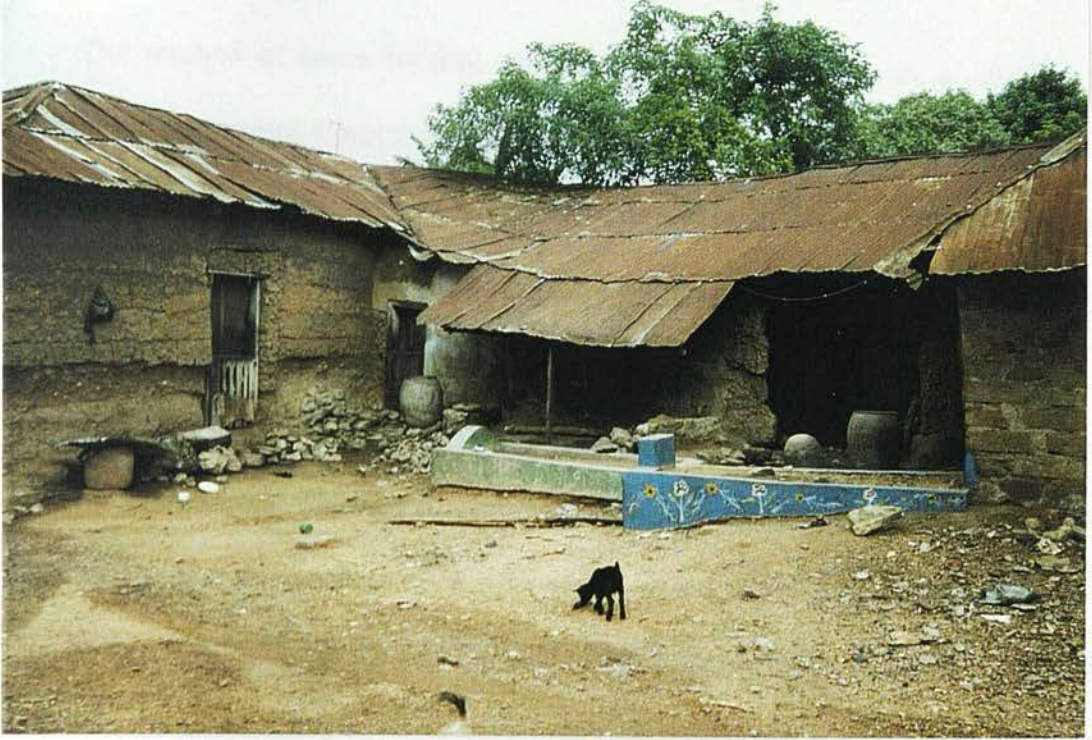


Plate 9. A section of compounds within Aseyin's palace. Note the graves within the courtyard. The outer wall of this section is already disintegrating. To the right edge of the picture is a section of the building constructed of sun-baked bricks to replace a part that collapsed.

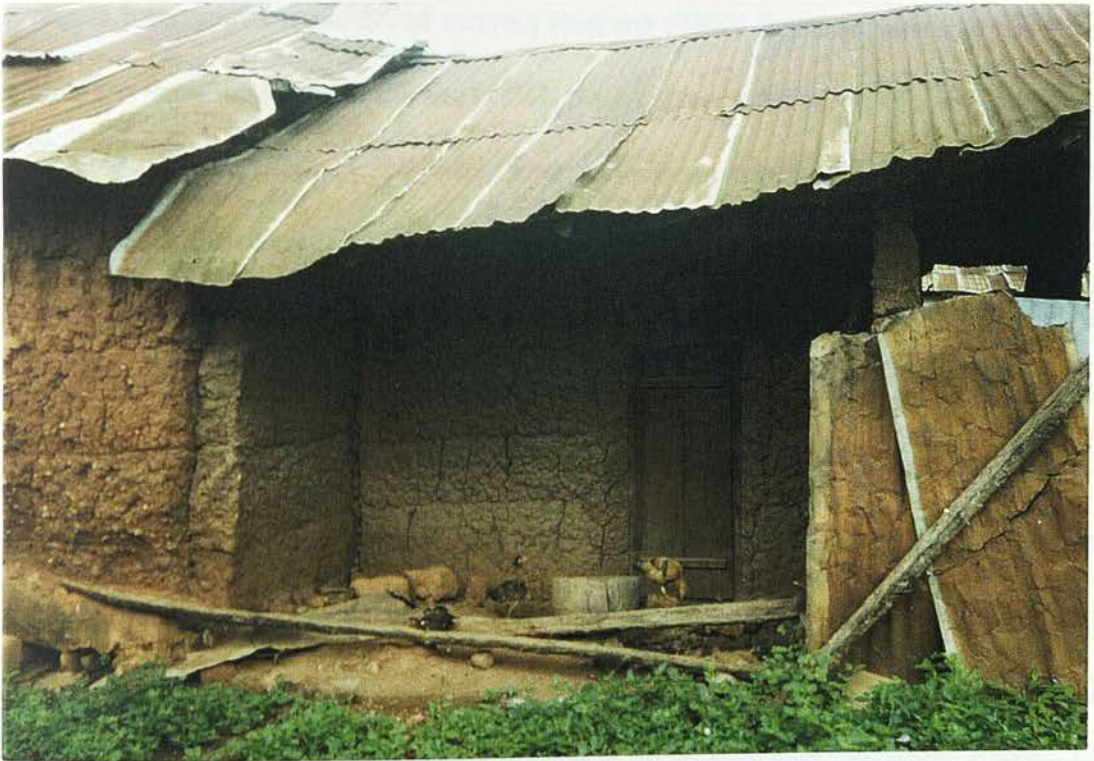


Plate 10. A section of Akan compound, Isalu, Ward 5. The outer wall of some rooms has collapsed. Note the length and width of a typical room.

The method of house building was uniform throughout the town as in all Yoruba traditional settlements. Construction skill was developed over a long period of time and was passed on from one generation to another. Houses were built on a cooperative/ communal basis/venture, that is, *owe*, unlike nowadays when house building has become a paid and specialized venture being handled by professional contractors, especially in big towns and cities. There was little division of labour in the traditional building process with heavy reliance on voluntary labour. The men erected the framework and the roof while women gave the finishing touches by smoothening the walls and floors and handling the decorations. A group of people would dig up the building earth from available locations usually from a short distance from the building site. At times the required lateritic soil or swish-mud³² is dug from within the site of the proposed compound. Adult and able-bodied males usually dig the lateritic soil while young males and females would carry it to the site. The 76 Compound Heads interviewed remembered carrying mud soil (43%), fetching water (20%), carrying bamboo from the forest to the site (20%), participating in the actual roofing (3.3%), food preparation for workers (3.7%), while some participated in putting the wall in place (10%).

The soil used contains sand and clay in very good proportion. The clay makes the soil sticky while the sand supplies the required strength. The soil types used for construction have been found to be unsuitable for planting of crops, meaning that the use of it does not impact on the available land for farming. The mud is processed into a malleable mass by men mostly, but at times also by women, working the mud with their feet. Women would supply the water needed to mix the swish-mud into the required quality to make mud-balls. The mix is usually left for between three to four days to ferment before being used to construct the walls. The soil-type bakes well under the natural condition of the tropical sun. The pressing of the earth into malleable balls was usually done by able-bodied males, using their feet, but in some instances women have also participated. If the kneading is done outside the site, young boys

and girls and adult women help to dig and also to carry the clay balls to the site. However, if the earth was processed on the site the resultant clay-balls are "thrown" by a male adult, using large hoes, to the male builder or mason, who sets the balls out into layers of walls.

The survey revealed the following with regards to the materials of the walls of the 76 compounds: 43.5% of the compounds have their walls of layers of unplastered mud, 47.1% are of mud but already plastered, 4.7% have part of their walls of mud bricks (plastered), 1.2% are of mud bricks unplastered, while 3.5% is of cement block plastered. It should be noted that those compounds whose walls were found to have a mixture of cement blocks and mud bricks do not make up complete compounds; the cement block walls replace parts of the old mud walls which collapsed and were rebuilt.

The survey also revealed the influence of the two principal seasons on the construction of mud compound. Rain influenced greatly the timing of new construction and the repair of existing ones. Wall construction was usually commenced shortly after the late rains -- November to December -- when there was the best prospect of continuous sunshine which dried up the layers of the mud-walls as they were piled on one another. Construction would last until late March when the early rains would begin. This timing also coincides with the dry season period when the farmers had little or no plantings and absolutely no weeding to do on their farms.

Every room in a traditional compound had a door. Some have very tiny windows (plates 11 & 12), but most of them did not have any window. Since at night they are unnecessary, it being fairly cold. All indoor activities take place along the verandahs, or in the open space within the compound.³³ Security was perhaps another reason for the lack of windows. In such windowless rooms clay lamps (*fitila*, *atupa*) were used any time of the day as an illumination.³⁴ While examining the role of windows in vernacular buildings, Ujam³⁵ observes that as a house is a place where safety and security is achieved against external dangers of



Plate 11:

A typical compound window recorded at Basorun compound, Ekunle 1, Ward 1. The window is covered with a mat.



Plate 12: Another typical window recorded at Adeta compound, Isalu, Ward 5. This window has no covering at all. Note how the external wall of the compound has been supported to protect it from collapsing.

enemies, extreme weather conditions. The size and figure of the window were decided ultimately to be as small and precise as possible, yet giving the best satisfactory effect of light, vision, ventilation and safety. He goes further to note that following those conditions, windows have acquired a very distinct shape which was maintained over centuries of evolution of building design until the emergence of the modern movement with the use of big windows or window walls. Table 15 below shows the range of sizes of windows found in the compounds surveyed.

Table 15: Sizes of Windows in Traditional Compounds surveyed at Iseyin.

Size of Window	Frequency	Percent
0.3m x 0.3m	11	12.6
0.45m x 0.45m	39	44.8
1.0m x 1.2m	36	41.4
Above 1.0m x 1.2m	1	1.2
Total	87	100.0

Source: Author’s field survey, 1996

In the 76 compounds surveyed, the doors are, on the average, 1½ feet (0.457m) wide and 4 feet (1.22m) high. A one-piece and, at times, two-piece wooden panel (table 16) makes up the door shutter (see plate 13). Door and window openings are normally formed as the wall construction progresses and spanned with either timber or raffia or bamboo lintels. The door panel was often carved or decorated with images of animals, human beings or just abstract figures (see plate 3). They were usually made from very strong wood including *iroko* and *oganno*.

Table 16: Types of Doors in 76 Traditional Compounds at Iseyin.

Door Type	Frequency	%
Ordinary wooden panel	54	68.3
Carved wooden panel	23	29.1
Uncovered opening	1	1.3
Plywood (flush) door	1	1.3
Total	79	100.0

Source: Author's Field Survey, 1996

The ceiling forms an important part of the compound to the extent that every room has a ceiling. However, one may occasionally find some corridors or passages without a ceiling. The ceilings are high so as to shield the heat from the roof, and also to provide ample storage space for keeping various items. In the construction of the ceilings, bamboo splits and raffia fronds are usually tied onto whole bamboo logs and palm trunks or rafters of palm in a closely-knit network (plates 14 & 15). The upper side, next to the roof chamber, is then dressed with clay/mud to make it strong enough to provide an adequate cooling effect by keeping back the intense heat from the roof. Mud gablets are reinforced with bamboo or cassia which are tied to a beam at eaves/wall head level and to the sloping roof timbers. The area between the roof and the ceiling functions as a storage space where food-stuffs, household effects, including clothes, masquerade costumes, and other items needing preservation are kept. Ojo identifies the functions of the mud ceilings to include provision of adequate warmth and also making heating from logfires effective; and keeping off drops of rain that may leak from the roof. Table 17 shows the materials used for the ceilings of the compounds. It will be observed that asbestos sheet (though considered in some quarters as capable of promoting cancer) constitutes 16.9% of the materials used for ceiling in the compounds surveyed. This is a modern material and its use is another evidence of the modifications going on in the compounds.

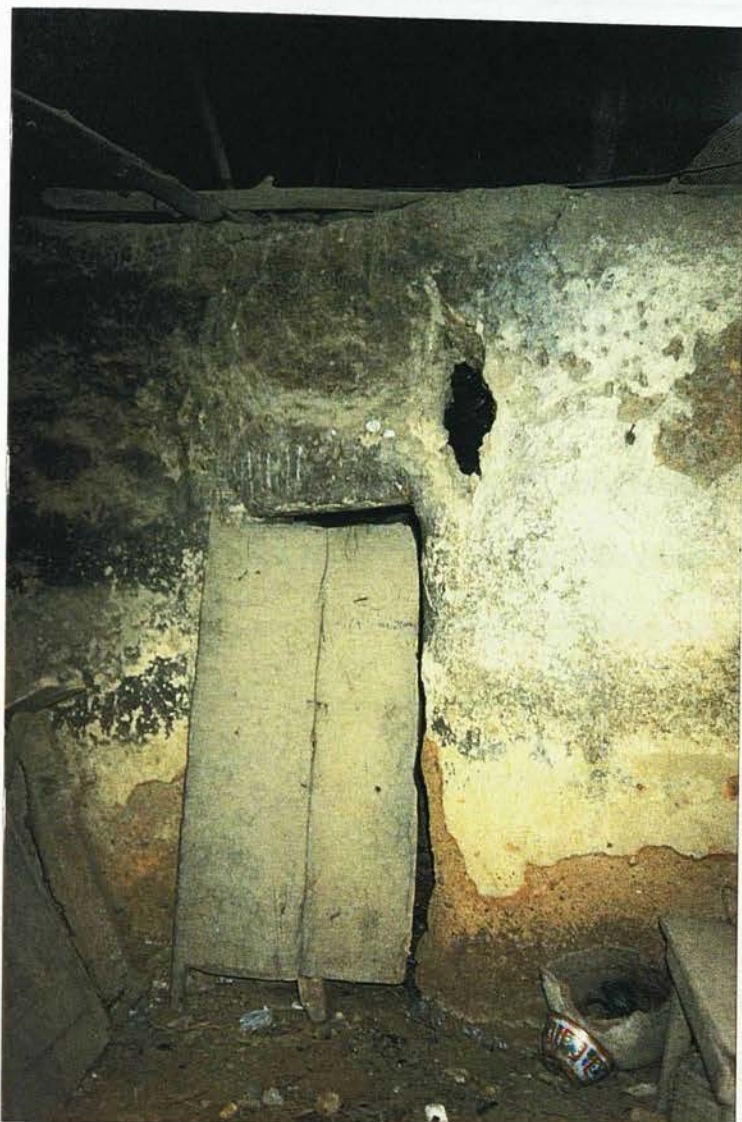


Plate 13 A traditional *Abogunde* door in one of the abandoned units of a compound within the Aseyin's palace. This type of door is known to be very strong being made out of hard forest wood. Note the width of the entrance to the room. Part of the ceiling can be seen too.

Table 17: Ceiling Materials for the Compounds Surveyed in Iseyin

Materials	Frequency	Percent
Bamboo/raffia with mud layer	59	62.1
Asbestos sheets	16	16.9
Planks with mud layer	14	14.7
Polished wood	6	6.3
Total	95	100.0

Source: Author's Field Survey, 1996

The roof has remained perhaps the most important element of the house in the Yoruba view. The roofing of the compound marks the completion of the construction process. Completion calls for celebration by way of feasting to the extent that when a compound is to be roofed it will be announced to all the relations and friends of the owner-family and a big crowd is usually present. It was a major social occasion in which men, women, and children participate or cooperate. Traditional compounds with their fairly constant width of between 15 and 18 feet (4.56m and 5.49m) for each unit, usually had a pitched form of roof (saddle roof), the ridge of which runs the entire length of the house. The saddle roofs, normally of steep pitch so as to shed rain water, were constructed of simple timber framing. Oil palm and raffia palm (*Raphia vinifera*) (*pako*) leaves, banana leaves, and elephant grass (*beere*) were used for thatching. The sloping pattern of the roof has earned it the term "impluvium" (plural "impluvia") or "rain-catching". The pattern allows rain water to run down the corner groins of the roof. Clay pots and other containers including calabashes (*igba*) and gourds (*akengbe*) usually line the edge of the roof along the verandahs or courtyard to catch the rain falling on the roof. However, newer forms of houses which are wider than the older forms, have a larger width of roof made possible by the use of the corrugated iron roofing sheets which permit a lower pitch and a wider roof for a given height of ridge. Table 18 shows the materials used for the roof frames of the compounds surveyed. All the compounds except one (1.3%) were

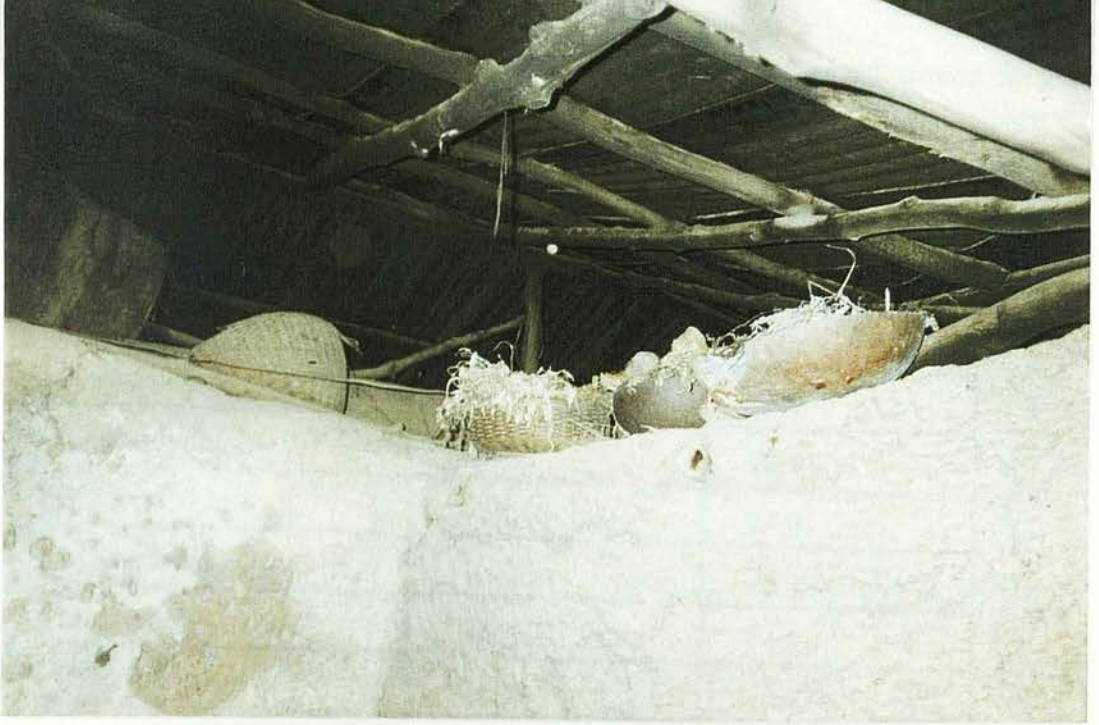


Plate 14: A ceiling and the roof frame at Ato compound, Koso 1, Ward 3, Iseyin. Note the calabashes and woven palm-frond baskets containing various items being stored. The roof frame is made up of teak (*gedu*) tree covered with corrugated zinc sheets.



Plate 15: The bamboo ceiling at Asabi compound, Gbongan, Osun State. It is similar to the ceilings of most compounds in Iseyin. Slices of bamboo are tied to full pieces with strong clibers or ropes (*okun*).

Source: Oyeyinka, A.O. (1996), op cit. P. 36

roofed with corrugated (zinc) roofing sheets. Only one still had a small section of the roof in thatch.

Table 18: Materials for the Roof Frame in the Compounds Surveyed in Iseyin

Materials	Frequency	Percent
Acasia	38	25.0
Teak tree	34	22.4
Bamboo	32	21.0
Sawn planks	25	16.4
Palm trunk	22	14.5
Others	1	0.7
Total	152	100.0

Source: Author's field survey, 1996

The laterite mud floor is usually rammed by beating with wooden beaters as soon as the roof is put in place in order to harden its surface. It is later smoothened and a finish of a mixture of cow dung and other vegetal materials called *boto/igbole aja* is applied and rubbed into the floor and the lower part of the interior walls up to 0.6 meters from the floor. The survey reveals that the floor of the rooms and passages are made up of earth rendered with cow dung (18.5%), unrendered earth (27.2%), concrete/cement screed (53.1%), and terrazzo (1.2%). When the mixture is dry the wall is further polished with *Crossopteryx febrifugal (aro ipale)* to a deep indigo colour. *Boto/igbole aja* is usually applied every five days so as to maintain constant smoothness of the floor and the inner walls. *Boto/igbole aja* protects the floor from giving off dust, beatifies it, and also "repels vermin".³⁶ Plates 16 and 17 show some examples of wall decorations.

This finding shows that over half of the compounds are already having some of their

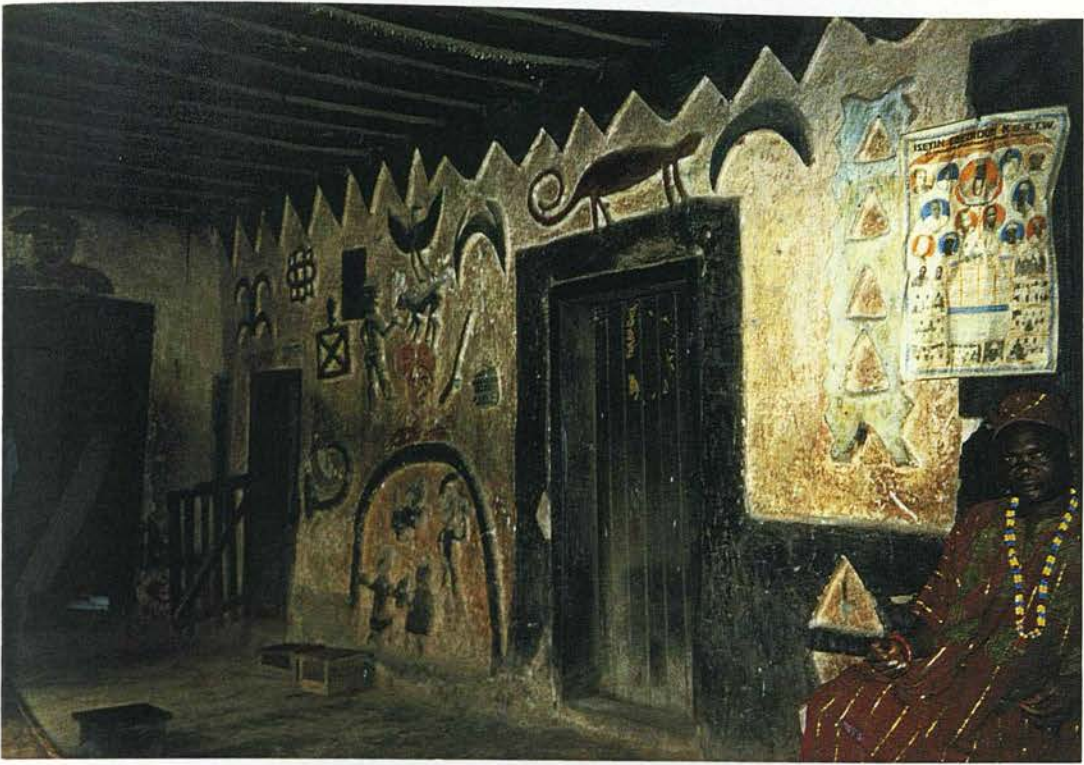


Plate 16: The inside of Basorun's compound. Sitting down at a corner is the Basorun himself, the second-in-command to the Aseyin of Iseyin. Note the larvish wall decorations made up of several images: some are abstract; some are images of birds and animals, and some are those of human beings. Note also the arrangement of bamboo which forms the ceiling frame.



Plate 17: Wall decorations at Aseyin's palace.

components improved or transformed. Many compound residents are incorporating necessary changes into their building structure, albeit in very subtle manner and only when they can afford to do so (plate 18).

5.2.3 Facilities in the Compound

5.2.3.1 Cooking Facilities

Nowadays in modern residential buildings, facilities such as kitchens, bath places, and toilets are being arranged in a different manner from that obtained before in traditional residential compounds. In those compounds, cooking facilities are usually at the foot of the wall separating the courtyard and the inner verandah. In many cases in Iseyin cooking takes place within the passage/corridor (*odede*) at the foot of the wall separating the inner verandah and the *odede* (Figs. 24 & 25). Table 19 presents the types of cooking facilities available in the compounds surveyed. Cooking within the corridor or passage carries the greatest percent (41.8%) followed by cooking on the verandah (25.3%). In 15.5% of the cases cooking take place in the open, that is, within the courtyard. In a few cases, (8.7%), thatched sheds (8.7%) are available either within the compound or as out-houses, while there are a total of seven (6.8%) mud structures used as cooking places (table 19).

Table 19: Cooking Facilities Available in Traditional Compounds in Iseyin

Type	Available within Compound	Available as out-house	Total No.	Percent
Mud structure	1	6	7	6.8
Wooden structure	1	1	2	1.9
Thatched shed	3	6	9	8.7
Cooking in the open	16		16	15.5
Cooking on verandah	26		26	25.3
Cooking within corridor	43		43	41.8
Total	90	13	103	100.0

Source: Author's field survey, 1996

The respondents were asked for the sources of power for their cooking. The majority rely on the use of fuel wood (62.1%). Other sources are kerosine stove (33.6%), charcoal (2.6%), gas cooker (0.8%), and electricity (0.8%).

5.2.3.2 Bathroom Facility

Spaces are sometimes created out between living units of separate families within the compound to serve as a bathroom. In most instances a bath place is shared with other adjoining compounds. Such "bathrooms" are small enclosed spaces (but not roofed) made either with old zinc roofing sheets or cut-off planks/back of timber from saw-mills, or bamboo/palm fronds (the palm fronds are replaced at necessary intervals. A person using this "bathroom" is able to chat with passersby while she/he is bathing and also along the way from and to the compound. Table 20 below shows the type of bathing facilities available in the compounds surveyed.

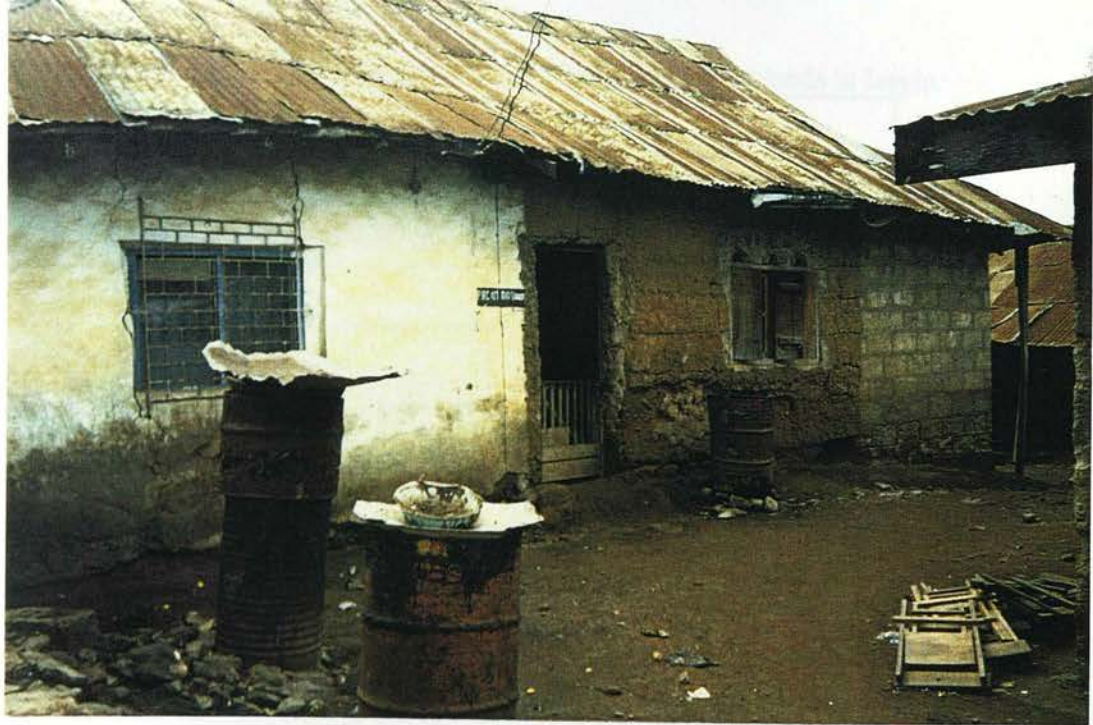


Plate 18: One of the residential units in Basorun's compound, Ekunle 1, Ward 1. The front wall is a mixture of mud unplastered, mud plastered, and cement block unplastered (which replaced a collapsed section of the initial mud wall). Note the glass-louvred window with burglar proofing. Note also the two covered metal drums into which household wastes are dumped before being collected by the local government refuse van for final disposal. The compound has electricity. The third drum placed by the entrance door collects rain water from the roof for use by the residents.



Plate 19: A mud structure built at the back of Olorin compound, Alapata area, Ward 8, Iseyin. The structure provides covered space for cooking and related activities. Note the poor state of the roof. Towards the left side of the picture is a bathing space covered with rusty corrugated zinc roofing sheets. Note the stagnant water in the foreground; no channel is provided for the waste water to drain away.

Table 20: Bath Facilities Available in Traditional Compounds in Iseyin

Type	No. Available	Percent
Exclusive to compound	9	11.5
Shared with other compounds	59	75.7
None	10	12.8
Total	78	100.0

Source: Author's field survey, 1996

5.2.3.3 Toilet Facility

An inadequate/insufficient toilet facility is the main problem of most of the traditional compounds whether in Iseyin, as revealed by this study, or in Ibadan as Schwerdtfeger³⁷ found out. The majority of the compounds do not have a toilet facility within them or even as an out-house for the exclusive use of the residents (table 21). Residents of the traditional compound have, as a long-standing practice, always gone to the bushes close to their houses to ease themselves. This practice did not pose any problem in the past when there were enough bushes everywhere at walking distances from compounds. The excreta served as organic manure for the grass and trees. However, at the present, town expansion as a result of urbanization and natural population growth have all combined to make the bush areas very distant from compounds to the extent that some people have to trek between three to five kilometers before finding a vacant bush to use for passing excreta. Urban agriculture has also affected the availability of undeveloped spaces for passing of excreta as pockets of undeveloped lands are being cultivated as home-farms (*oko etile*). This author has personally experienced this so many times during his regular visits to the town. It tends to be more hectic on any such visits when the author did not drive his car to Iseyin when he had to trek three and a half kilometers from *agbo ile* Wari to the Anwar-Ul-Islam High School to use the



Plate 20: Akan compound, Isalu, Ward 5. The green plant within the courtyard is used for the treatment of malaria and other related ailments. Note the large size of the courtyard; hard surface and well kept. Goats can be seen moving around. The opening near the twom pots by the right edge of the picture is the birthing space used by the residents.



Plate 21: Basorun compound, Ekunle 1, Ward 1. The wooden structure by the side of the building is the communal birthing space. The open shed at the centre is roofed with pieces of bamboo to provide shade at the entrance to the compound.

school toilet or a bush nearby. People who are reluctant to cover such a distance usually wait for night to fall when they either pass their excreta along the erosion channels, inside the open drains along roads, or pass the excreta in nylon bags and throw them onto refuse dumps as in Ibadan, Lagos, Oyo, Abeokuta and Osogbo. This practice is not hygienic and can be a major cause of cholera and similar diseases.

Table 21: Toilet Facilities in Traditional Compounds in Iseyin by Ward

Ward No.	W.C. for single family	W.C. for multi-family	Pit latrine for single family	Pit latrine for multi-family	Pail system for single family	No facility	Total
1.	1	1				7	9
2.	--	--	--	--	--	--	--
3.						8	8
4.						11	11
5.				1		11	12
6.				9		3	12
7.		1	1	9		1	12
8.			1	8	1	2	12
Total %	1 (1.3)	2 (2.6)	2 (2.6)	27 (35.5)	1 (1.3)	43 (56.6)	76 (100)

Source: Author's field survey, 1996

It needs to be mentioned here, however, that groups of compounds have been providing pit latrines jointly for the use of their members (plates 22 - 25). In fact, less than a decade ago, the Health Department of Iseyin Local Government directed that every four related compounds should group together and build a pit latrine to be used and maintained jointly by the residents. A few of such toilets were in use at the time of the survey but many were abandoned at the lintel level for lack of funds to purchase the cement blocks, steel reinforcement, and zinc roofing sheets with which the latrines were to be constructed. Perhaps



Plate 22: Erosion channel running through the back of Akin compound, Isalu, Ward 5, Iseyin. The channel, which was over fifteen feet deep in 1960s is now no more than five feet deep due to the dumping of wastes into it over the years.



Plate 23: A communal refuse dump for a group of compounds at Oke-Eyin, Ward 6, Iseyin. The grey spot at the foreground is the accumulated ashes from the burning of refuse. The cement-block structure at the foreground is the communal pit latrine provided by a group of compounds in the neighbourhood. The children in the picture are attending the call of nature in the open instead of using the pit latrine.



Plate 24: Communal facilities: refuse dump, pit latrine (the plastered structure with tiny openings), and bathing space (enclosed with rusty corrugated zinc roofing sheets) for a group of compounds at Idi-Ose, Ward 8.



Plate 25: A communal stand-pipe. It used to convey water from the Atori waterworks (500m away). Now it is out of service.

if the health officials allowed the latrines to be constructed of mud walls, forest timber for roof frames, and zinc roofing sheets, more latrines than the number envisaged would have been completed. Tables 19 - 21 show the type of cooking, bath, and toilet facilities available in the 76 compounds surveyed.

In the modified traditional buildings, and in particular the "Brazilian" house types, sanitary facilities are being placed at the rear of the buildings in a roofed area separated from the main structure by a small walled yard (Fig. 28). In the modern single family (self contained) houses, basic facilities are organized in various ways with, for example, bath and water closet separated from a living room or a bedroom by just a door. The same thing is true of the relationship between a modern kitchen and a dining area.

5.3.2.4 *Water Supply*

Water is required for a variety of activities ranging from drinking and cooking to washing of clothes and bathing. Sixty-seven percent of the residents do their washing within the compound, 28.2% do theirs behind the compound, while 4.7% take their clothes to streams to wash. For all activities requiring the use of water, residents of the compound obtain their needed water from wells dug in their compound (plates 26 & 27) and, in the rainy season, from the falling rain. The function of the impluvium for rain-catching has been discussed earlier in this thesis. However, because some of the wells run out of water sufficient for the use of the residents especially in the dry season, the residents go to the streams, brooks and ponds to fetch water particularly for washing and bathing while limiting the little inside their wells for drinking only. Some residents are also able to obtain pipe-borne water from the supply from the two water works in the town -- that of Atori in Ward 8, and the one at Ajumoda in Ward 3.

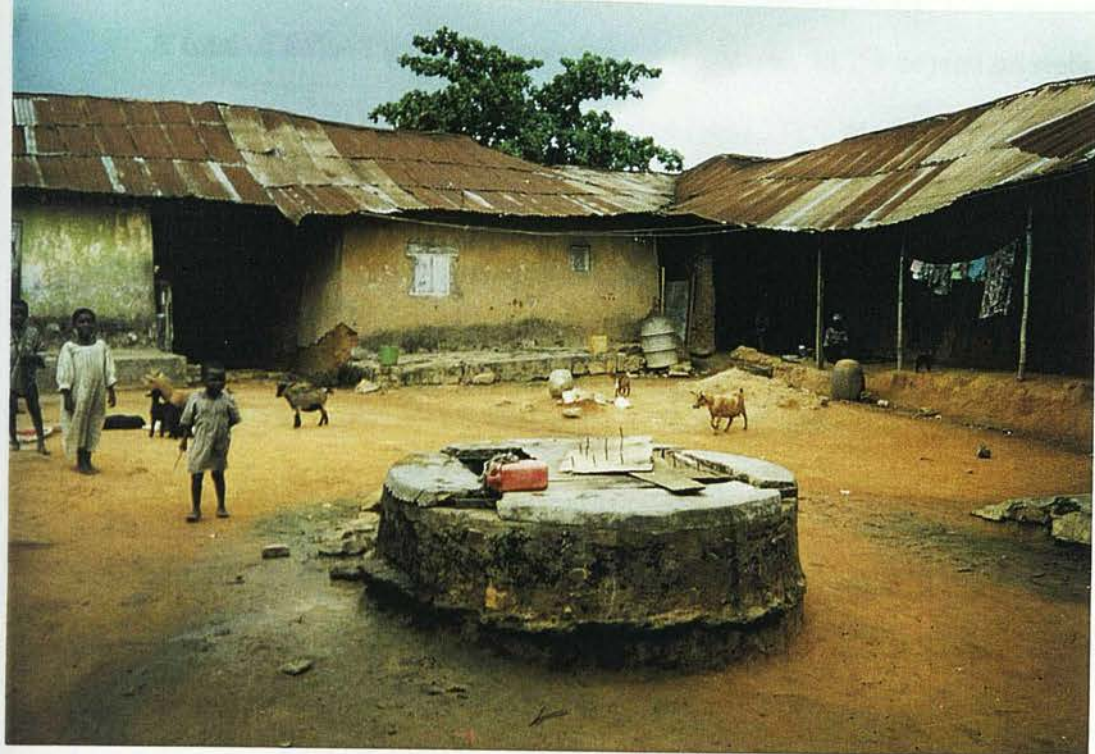


Plate 26: A covered well at Onilefon compound, Oke-Eyin, Ward 6.

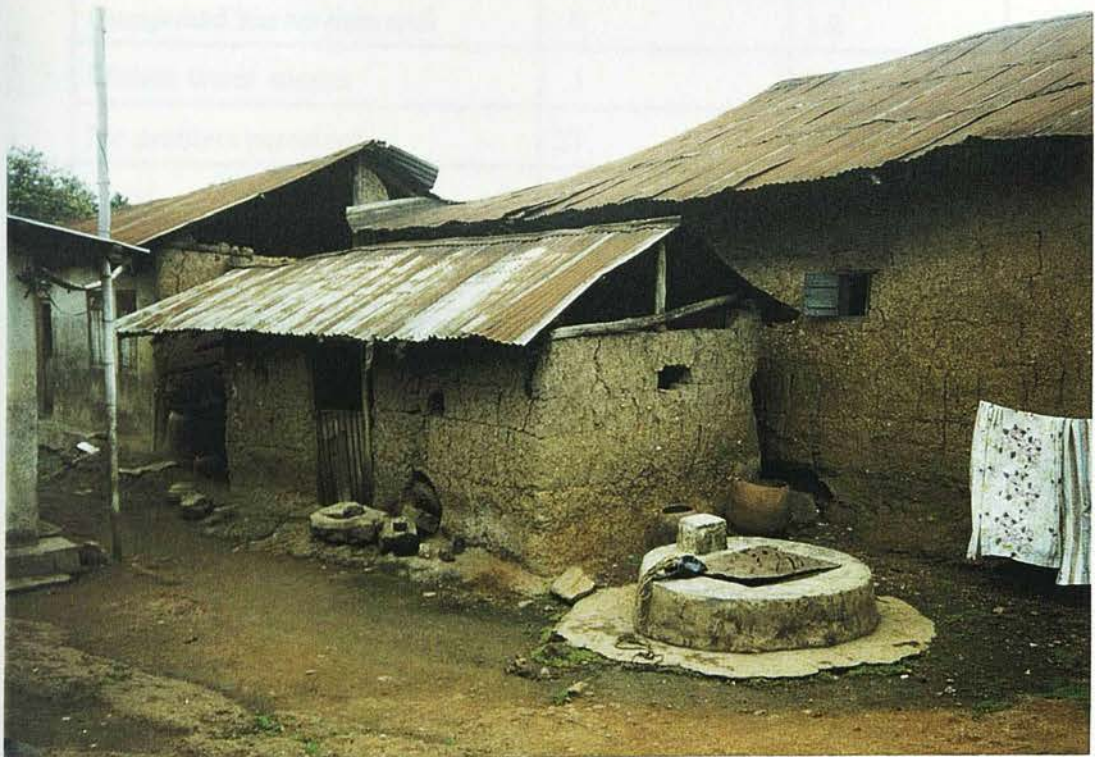


Plate 27: A covered well at Onidese compound, Isalu, Ward 5. Next to the well is a mud structure that serves as a kitchen for the residents. At the entrance to the kitchen is a grinding stone for grinding pepper, beans and other ingredients for cooking. Note the laundry line and two pieces of clothes being dried.

A total of 46% of the compounds rely on rain water; 36.2% depend on wells; 11.1% obtain water through the communal stand pipes (plate 25); 1.8% have their own in-house piped water connection; 3.7% depend on streams and springs; and the remaining 1.2% obtain water from boreholes. All the sources of water are not too reliable, especially the piped water, the supply of which is influenced by availability of fuel to run the pumps. Table 22 below presents the water supply problems that the residents are contending with.

Table 22: Water Supply Problems Facing the Compound Residents in Iseyin

Problems	No. of Responses	Percent
Irregular tap water	16	19.8
No tap water	15	18.5
Dry wells in the dry season	14	17.3
Compound has no own well	8	1.2
Distant water source	1	9.9
No problem perceived	27	33.3
Total	81	100

Source: Author’s Field Survey, 1996

The respondents put forward what they consider as solutions to the water supply problems including regular supply of tap water, more stand pipes to be installed in various quarters, local government to provide bore-holes, and that every compound should have its own wells. Land configuration is the inhibiting factor for the residents of those compounds without their own wells; some of them are in the area with underlying igneous and other hard rocks.

5.2.3.5 *Electricity Supply*

Before electricity was installed in the town all the compounds were using the traditional clay red-oil lamps and, at best, kerosine lanterns. However, since electricity reached the town in late 1974 many of the compounds in Iseyin have been connected to electricity through the joint efforts of the residents. In some compounds where electric light is installed, there are still some residents who are unable to have an electric point in their rooms for lack of money to pay the monthly bills. 59 compounds (77.6%) were found to have electricity while the remaining 17 (22.4%) could not afford it. The alternative source of light to electricity are the clay lamp, lantern, and candle.

5.2.3.6 *Accessibility and Drainage*

Every compound is accessible by footpaths which is what the majority of the residents require to move about. Very few have bicycles and motorcycles. 26.3% of the compounds are accessible by organized footpath; 39.5% by spaces between compounds; 14.5% by untarred roads; while 19.7% are accessible by tarred roads. All the accesses are free from obstructions. The responsibility for the maintenance of the footpaths is that of the compound residents while the Iseyin Local Government maintains the roads. Almost fifty-eight percent of the compounds have visible (semi-organized) open drains while 32 compounds (42.1%) have either unorganized drains or none at all (plate 26). The drains are largely maintained by compound residents.

5.2.3.7 *Refuse Disposal Facility*

A break-down of types of refuse being generated by residents of the various compounds shows that 45.8% of the refuse is of food items including vegetables, 28.5% is of leaves, 13.9% paper, 9.0% animal droppings, 2.1% ashes, and 0.7% miscellaneous including textiles and firewood pieces. Leaves are used a lot in most traditional compounds to wrap food,

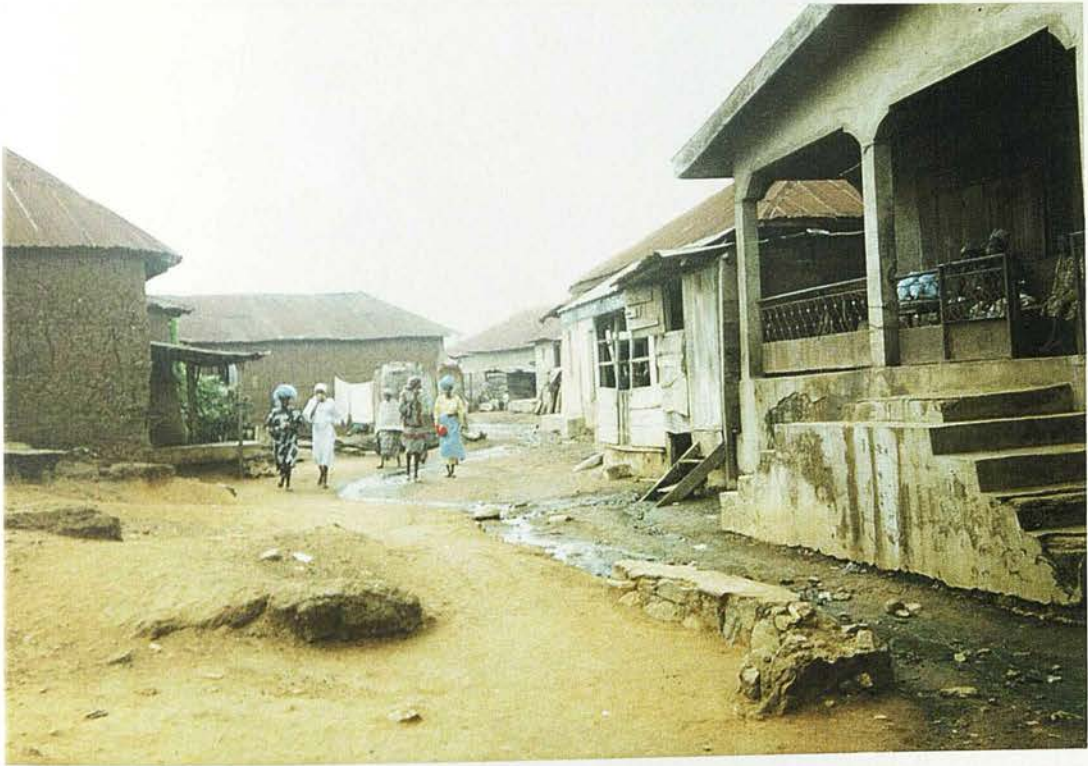


Plate 28 An example of a wide pedestrian route that provides access to several compounds in Oke-Eyin quarters, Ward 6, Iseyin. This section is in front of Alufa compound. Note the waste water draining out of compounds. This is one example of the lack of an organised drainage system complained of by those interviewed. It is not uncommon to find mosquitoes breeding in the water.

especially cold pap (*eko tutu*), which constitute the supper in most compounds, and yam flour porridge (*amala*), pounded yam (*iyan*) which are the common meals for lunch. The types of containers in use for keeping the refuse include calabash (*igba*), with or without cover, baskets (*agbon*) with or without covers, plastic buckets, and metal buckets.

Every compound has access to a refuse dump to which the refuse can be taken for final disposal. Twelve percent of the respondents said that they burn their refuse within their compounds, 35.8% carry their refuse to nearby open spaces for burning, 4.9% carry theirs to the refuse dump owned by the compound, 42.0% dispose of their refuse in the communal refuse dump (plates 23 & 24), while 4.9% have their refuse collected by the local government for disposal. The refuse dumps vary in size from 2.0 sq m to above 6.0 sq m. The responsibility for the maintenance of the dumps is that of the residents of those compounds whose residents use the dumps. It needs to be stressed that the dumps are regularly raked and set on fire. Often the edges are weeded and the weeds burnt. Young males and the elderly males in the compounds participate most in the cleaning of the dumps.

5.2.4 *Functions of the Various Elements of the Compound*

Various elements of the traditional compound perform different functions. The compound is built in such a way as to cater for different activities of the occupants. The rooms are usually occupied at night and are mainly for sleeping, mating and storing valuable possessions. Any occupant needing some sleep during the day usually spreads out a mat within the corridor, *odede*, because sleeping in the room during the day signifies that a person is sick. Again this is another reason that many of the rooms do not have windows.

The piazza (corridor as well as the inner courtyard) offer space for part-time craft making and also for relaxation. Cotton spinning, calabash carving, basket and raffia mat

weaving, leather working, rope making, woodcarving, sculpture making, and making of the traditional Yoruba cosmetics -- body cream (*osun*) and eye stick (*tiro*) -- are some of the activities that take place. Weaving on the loom by women to produce the hand-woven textile (*aso oke*) of the Yoruba is another important economic activity to which the piazza serves as ready space. The central corridor is also where food is consumed. The inner part of the pitched roof provides storage facilities for food stuffs and other items needing preservation. With the introduction of mobile loom frames, weaving on the horizontal loom by the males to produce the narrow-strip hand-woven textiles is another common activity that is taking place within the courtyard.

In addition to letting in light and air to the compound, the central courtyard provides space for outdoor relaxation and particularly moonlight entertainments in the evenings. It is a place where visitors are received and small-scale social gatherings held. The shrine of the god or deity which the family worships is located in part of the courtyard. In a family where there is an herbalist, essential and frequently needed herbs such as *okookoo* for stomach disorder, and symbolic plants of a goddess such as *peregun*, are grown in part of the courtyard. The size and shape of courtyards in the compound vary directly with the size and shape of the family units bounding them. In shape they are either rectangular or square. On size, Lloyd³⁸ observes that in Ekiti the courtyards are small, often only 10 feet square, whereas in Saki the courtyards extend as much as 100 feet square.

According to the 27 people in the traditional building industry interviewed in Iseyin, the size of the courtyard is influenced by available land, size of the family, types of activities that will take place within the courtyard and their space requirements, and the decision of the elders in the family. According to the masons, the breadth of an average courtyard will vary from 5m to 8m, while the length will be between 8m and 10m.

Inter-compound open spaces constitute another important element in the whole layout

of compounds within various quarters. The inter-compound spaces or alleys separate the compounds from one another and are the principal circulation networks meant to serve as public concourse or a field of close contact between related groups of families on both sides of the pedestrian streets. The pattern of these spaces is quite rhythmical in the way they narrow where they are abutted by either the length or breadth of two compounds, and suddenly widen out where they serve as play areas for various outdoor games including *ayo*, *bojuboju*, *tapatapa* (kick-about) and *ere osupa* (moonlight plays) for the young and *ayo* or mere sitting areas for adults to interact with passersby. Ojo observes the following use of the inter-compound open spaces:

No matter how closely houses were built, some relatively large plots were left to separate a group of houses of one related kin from another. If they were left under bush they became the all-purpose dunghill for adjoining wards; in some cases they were cultivated for market gardening.³⁹

The spaces are found to be adequately kept through constant weeding, cleaning and burning by the people. Tobacco is planted on some of the spaces to promote regular maintenance.

5.2.5 Housing Finance.

Finance is a very important aspect of housing delivery in most societies. In Nigeria finance is the crux of current housing problems as only the few affluent can finance a housing project under the current harsh economic conditions. Most developers including government agents rely on loans of various sorts from different sources ranging from private money lenders to organized financial institutions including Building Societies, Housing Associations, Credit Unions, and Housing Cooperatives. The Federal Government of Nigeria established the Federal Mortgage Bank of Nigeria to serve as the apex financial institution; to mobilize

adequate funds for the housing sector from Commercial Banks; Insurance Companies, Merchant Banks, and the National Provident Fund; and to assist the low-income groups to own houses through subsidized mortgage loans. The arrangement has been unsuccessful as the target population -- the low-income group -- has not been favoured⁴⁰ due in part to stringent conditions including collateral securities, high interest rates, smallness of the loans, and the short period of amortization. Most Nigerians are reverting to the traditional system of housing finance.

The construction of the traditional compound is usually financed jointly by all members of the extended family through the pooling together of various resources at their disposal. Land may be taken from that belonging to the ancestors of the family; where the family has no land in the immediate locality where they want a house built, the quarter/neighbourhood head (*Baale*) such as Onikosa of Isalu, Aaba of Itan, Bashorun of Ekunle, Jagun of Ilado, will give out a parcel of land to the family from that belonging to the quarter which is held in trust for the king (*Oba*) who in turn holds it in trust for the entire people of the town. The required labour for the whole construction is provided by all members of the family and their friends as well as distant relations. A large percentage of the materials needed are also provided by the family from their farms to the extent that only a fraction of the materials are bought, particularly nails, corrugated iron roofing sheets, doors and window shutters which have now replaced ropes (*okun*) and thatch (*koriko, beere*).

In Iseyin, when a single family is putting up a house under the traditional housing delivery system, the above procedure is adopted -- a combination of self and communal effort. The house owner will take land from that belonging to the entire extended family, buy those materials that are not locally available and provide a feast for those who will provide free labour -- his relations and friends. Where the developer does not have enough money to procure manufactured materials he/she will seek financial help from friends and relations and

at the worst take a soft loan from traditional money lenders (*ayanilowo*) whose lending conditions are highly favourable with little or no risk of repayment. There are traditional procedures for recovering the loan if a borrower attempts to default. A defaulter's Compound Head would be notified and urged to ensure repayment and if this failed the service of an herbalist may be sought to recover the loan. The Compound Heads were asked for the methods by which the construction of their compounds were financed. Three sources were identified; through the sole effort of the Compound Heads (28.9%), joint effort of family members (67.1%), and contributions from family members plus help from friends and relatives (3.9%). The types of assistance given by friends and relatives, according to the respondents, include labour, food (used to feed those working on the site), and materials.

5.2.6 Physical Conditions of the Compounds

The compounds are indeed very old in age and only two (2.6%) of them are in the 21-40 year age range. Eight (10.5%) are 41-60 years old; 7 (9.2%) are 61-80 years; 16 (21.1%) are 81-100 years old while the remaining 43 (56.6%) are more than 100 years old. It is interesting to find many of these compounds in very good and habitable condition (table 23). The compounds considered to be in good condition are those whose walls are strong with no visible cracks; whose roofs are neither sagging nor have parts missing; have strong doors and windows, and have access to bathspace and toilet. The compounds that are in fair condition are those with limited cracks on their walls; rusty roofs with small leakages or having part of the roof missing, and having access to a bathspace and toilet. Compounds in poor condition are those with substantial cracks on the walls; having parts of the roof missing; and have no access to sanitary facilities. Ten compounds have no built-in bathroom facility of their own but share with others. Also, 43 of the compounds have no toilet facility (see table 23).

Table 23: Physical Condition of 76 Compounds Surveyed in Iseyin

Element/ Section	Good		Fair		Poor		Total
	Number	%	Number	%	Number	%	
Wall	23	30.3	48	63.1	5	6.6	76
Roof	20	26.3	43	56.6	13	17.1	76
Windows	22	28.9	44	57.9	10	13.2	76
Doors	25	32.9	39	51.3	12	15.8	76
Kitchen	8	10.5	32	42.1	36	47.4	76
Bathroom	3	3.9	39	51.3	24	31.6	66*
Toilet	1	1.3	19	25.0	13	17.1	33**

* 10 compounds have no built-in bathroom facility of their own but share with others.

** 43 compounds have no toilet facility.

Source: Author's Field Survey, 1996

A number of crosstabs were run to determine the relationships of some variables to one another regarding the physical and environmental conditions of the compound. The crosstab ran for toilet type and toilet condition gave a chi-square value of 62.9 and a significance of .000 where $p < .05$. Since most compounds do not have own toilets the situation is considered poor, hence the significance.

Compound age was also matched with condition of kitchen. The chi-square value was 11.1 with a significance value of .19 where $p < .05$. There is no significance here. Compound age and water source do not show any significance. The chi-square is 20.4 while significance value is .42. The relationship between the age of compound and adequate sanitation was also tested. The chi-square value of 8.3 and significance value of .07 showed no significant relationship meaning that the age of a compound does not affect its level of sanitation.

5.2.6.1 *Compound Maintenance*

The responsibility for the maintenance of the compound is shared by the members of the extended family residents in the compound. 82.9% of the respondents claimed that every member of the compound is involved in the maintenance of every aspect of the building requiring any repairs. 15.8% said that it is the responsibility of the Compound Heads only, while 1.3% stated that the nuclear family occupying the section of the compound where there is a fault has the responsibility for repair. The communal efforts by which the compound is built is carried further into the whole life of the compound including maintenance and even cleaning to the extent that only 2.7% of the respondents said they received any external support for any repair work done. Ninety-eight percent of the compounds have had one type of repair work or another carried out on them since they were built. Maintenance work is carried out as and when required and only 26.3% of the respondents considered the level of maintenance to be inadequate. There are, however, some factors inhibiting regular maintenance of the compounds in recent times. These include the large size of the extended family, current high cost of building materials in Nigeria, poverty, the lukewarm attitude of some members, the fact that some members work far away from home, and also the fact that some members have moved out of the compound having built a house of their own. One thing needs to be mentioned here; those who have moved out of the compound to live in their own houses which are still within the town are usually expected to participate in any repair work that needs be done on the extended family compound either directly or by sending someone to represent them.

5.2.7 The Environment of the Compounds

The Yoruba are generally known to be a neat, dressy and hygiene-conscious (*afinju*) people, and this is reflected in the level of sanitation in their various compounds. The first thing a Yoruba woman would do on waking up in the morning is to grab her chewing stick (*orin*) and a broom and sweep out the corridor (*odede*) into the verandah and from the verandah to the courtyard. It is considered a taboo (*eewo*) for anyone to walk barefooted on an unswept floor early in the morning as this will cause swollen feet (this taboo is meant to allow biting vermin to be cleared from the area when it is too dark to see them). A person is also not expected to urinate in front of the house or besides the walls or fences (this taboo is only meant to keep away bad odours from the house). The inside of all the compounds were found to be well kept through very regular sweeping (which is done at least once a day and most often twice daily) and weeding of the courtyard as well as the surrounding of the compounds. The female children and the women are primarily responsible for sweeping while the boys and the elderly men are responsible for weeding round the compound.

5.2.7.1 Problems of the Traditional Compound in Iseyin

Notwithstanding the foregoing observations, the respondents were asked what they considered to be the environmental problems facing them in their compounds. The problems as identified by them include: lack of sanitary facilities especially toilets, within or for each compound, and lack of roofed bathroom for and within each compound and stinking gutters. Other problems identified are the droppings of the domesticated animals such as goats, dogs, chickens, sheep, ducks, and pigeons (although the droppings for a previous night are usually

swept first thing in the morning and early in the evening when people start to gather in the courtyard for relaxation); inadequate water supply (all wells were found to have raised and plastered walls with padlocked-cover not only for protection against accidents but to prevent any stray droppings into the wells); smoke and odour from refuse dumps; lack of refuse vans to carry refuse away; distant refuse dumps; lack of organized drainage; differences in individual's sense of hygiene; and large population.

As a way of cross-checking the variables of environmental problems identified by the CHs, the builders were asked what they considered to be the environmental problems in the traditional compound. They identified problems such as poor sanitary and environment care (57.1%), disturbance by ants (14.3%), inadequate maintenance (7.1%), poor economy (7.1%),

Table 24: Physical Environment of Traditional Compounds as Conceived by Members of the Public interviewed in Ibadan.

Description	Frequency	Percent
Large enclosed courtyard	17	18.9
Neat and pleasing environment	16	17.8
Filth & unsanitary	15	16.6
Organized house keeping	7	7.8
Inadequate ventilation	7	7.8
Unifying structures	5	5.6
Adequate security	5	5.6
Lively	5	5.6
Domesticated animals everywhere*	4	4.4
Noisy environment	4	4.4
No privacy	3	3.3
Designated land uses	2	2.2
Total	90	100.0

* The domesticated animals constitute an important part of local waste disposal and recycling process in the traditional sections of Yoruba towns.

Source: Author's Field Survey, 1996

although (14.3%) of them felt there were no environmental problems. The fifty members of the public/professionals interviewed in Ibadan were also asked how they would describe the physical environment of the traditional compounds. They gave a very interesting picture as shown in table 24 below (only 76% of the respondents had ever lived in a compound before).

It is not all the responses in the above that constitute environmental problems. Some of the respondents mentioned features that they considered were descriptive of the environment of the compound. Such responses include the availability of large and enclosed courtyard, designated land uses, neat and pleasing environment and organized house keeping.

The issue of crowding was dealt with by Rapoport⁴¹ and Milgram⁴². Schwartz⁴³ discusses the concept of privacy and observes that lack of control of unwanted interaction, which implies the ability to be alone when one so wishes and with others when that is desired is termed the "lack of privacy".⁴⁴ This is what some people have criticized the traditional compound for (table 24). Ledrut was quoted by Rapoport as observing that crowding is an inability to escape interaction;⁴⁵ however, "isolation is an inability to find people".⁴⁶ "Crowding" together is a way of life of the Yoruba and this practice has sustained them from the time of creation. Anderson⁴⁷ notes that in Chinese culture, the norm stresses the desirability of large numbers of people sharing dwellings; privacy is defined in terms of groups not individuals. The same space in the Chinese dwelling with the same number of people is perceived differently in terms of its affective density (crowding and isolation) depending on whether the people are kin or nonkin. This is the picture with the Yoruba concept of crowding and privacy in the compound.

The staff of Iseyin Local Government Town Planning Department (ILGTPD) were also asked to assess the environment of traditional compounds. Their responses include lack of basic amenities (35.3%); poor waste disposal method (5.9%); inadequate access to buildings

(14.7%); chaotic in-filling (5.9%); poor sanitation (17.6%); and inadequate spaces between buildings (8.8%). Some of them (11.8%) thought that the environment of the compound is neat.

From all the responses given above it will be seen that the perception of the environmental situation of the traditional compound is varied and diverse. This is not surprising at all because the perception of an object or event has been said by various scholars to depend on certain qualities of the person including familiarity with the object, the vested interest he/she has on the object, and the prevailing circumstances among others. The builders were asked to suggest solutions to the problems. They suggested the provision of adequate sanitary facilities (50%); proper planning (16.7%); plastering of the walls and painting (8.3%); and assistance from government (25%). The officials of the ILGTPD were also asked for ways by which the quality of the compound environment could be enhanced. They suggested the following: the provision of a toilet in every compound (17.2%); improved vehicular access to compounds (8.6%); provision of deep wells by government (3.5%); provision of incinerators and refuse vans by the local government (6.9%); setting of appropriate environmental standards (8.6%); enforcement of minimum planning standards (10.3%); provision of drainage (17.2%); ensuring standard doors and windows (5.2%); adequate air-spaces between structures (10.3%); and provision of toilets for groups of compounds (12.2%). In order to sustain the improved environment, the ILGTPD staff suggested rigorous public enlightenment programmes for compound residents, enactment of appropriate bye-laws, imposition of strict penalties for environmental defaulters, strict enforcement of development control regulations, the use of traditional management structure, daily clean-up exercises, regular planning open-house/forum, and public participation in planning decisions. The Compound Heads were asked to identify what they thought could be the solution to the environmental problems. Their suggestions are as shown in table 25 below.

Table 25: Suggested Solutions to Environmental Problems by Compound Heads in Iseyin.

Solution	Frequency	Percent
Government to ensure regular supply of potable water	16	17.6
Provision of public toilets	15	16.5
Provision of community facilities	13	14.3
Efficient refuse collection and disposal	11	12.0
Environmental education/enlightenment programmes	9	9.9
Provision of access roads and drainage	8	8.8
Sanitary inspectors to enforce basic hygiene rules	7	7.7
Every compound to have own kitchen and latrine	6	6.6
Residents' increased participation in environmental up-keep	6	6.6
Total	91	100.0

Source: Author's Field Survey, 1996

As the above table shows, what the compound residents considered as perhaps the best solution is for the government to provide the community with adequate and regular supply of potable water either in the form of boreholes or by refurbishing the existing two waterworks pending the completion of the ongoing Ikere Gorge Dam. Provision of community facilities (14.3%) comes second in their order of mention. The people are used to communal life and so sharing of facilities is acceptable to them. For the environment of the compound to improve, (12%) of the respondents suggested that there be efficient refuse management backed up with effective environmental education and public enlightenment programmes. About 7% of the residents suggested that every compound should have its own kitchen and toilet.

When Jennifer Bray⁴⁸ visited Iseyin in 1965/66 she found a total of 670 compounds distributed throughout the town as follow: 138 compounds in Adabo; 188 in Koso/Ijemba; 167 in Isalu; 177 in Ekunle. The survey conducted for this research revealed a very drastic decline in the number of compounds existing in 1966 and those found by the current study in 1996 from 670 to 246 respectively depicting a loss of 424 compounds (63.3%) over a period of 30 years at an average of 14.1 compounds per year. The situation is, however, worse than that because a total of 708 compounds were actually found to have existed in Iseyin by this survey. Given this number, therefore, and with only 246 compounds found to be intact and habited/habitable as at the time of the survey, a total of 462 compounds, that is 65.3%, have become ruined (plate 29). See table 11 for the spread of the decline based on administrative Wards. Between 1966 and 1996, the average yearly decline is 15.4 compounds, that is 2.2% per year. If this rate of decline continues, and there are strong indications to this effect, in twelve years' time, that is by the year 2009, there would be no single traditional mud compound left in Iseyin and a whole generation of building tradition would have been lost (plate 30). Already in Ekunle Ward 2, no single compound out of the 89 that ever existed there now exists.⁴⁹ This is the crux of the issue or concern of this study.

The builders were asked if they thought that traditional compounds were declining and 75% of them said "yes," while only 25% felt that there was no decline. Eighty-eight percent of the professionals/members of the public interviewed also expressed the opinion that traditional compounds were going into extinction, 10% of them said "no," while only 2% said they did not know. The staff of the ILGTPD authority were also asked the same question and all of them said "yes".

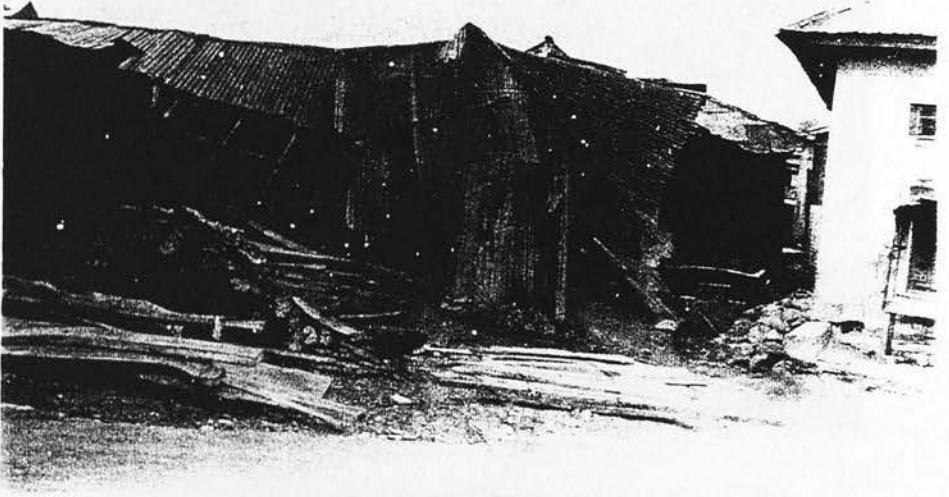


Plate 29: This is Ato compound, Koso 1, Ward 3, in complete ruins.



Plate 30: A section of Ogunbi compound, Koso 2, Ward 4. The front wall has falling down. Note the gradual disintegration of the side wall and the cement plaster which is peeling off.



Plate 31: A section of Balogun Awaye Compound, Iseyin, in ruins.



Plate 32: A collapsed ceiling of one of the compounds in Isalu, Iseyin.

In order to ascertain this situation the author went through the plan registers and other records (especially by digging through piles of building plans in the plan room) in the ILGTPD's office to compile the number of applications received for the construction of mud and other types of buildings between 1991 and 1995. The findings are contained in table 26 below.

Table 26: Number of Building Plans Received by Type Between January 1991 and December 1995 by the Iseyin Local Government Town Planning Department.

Type of Building	1991	1992	1993	1994	1995	Total	%
Mud compounds						NIL	NIL
Other mud buildings						NIL	NIL
Modern courtyard buildings	14	18	10	6	20	68	4.6
Self-contained buildings (flats)	45	72	49	62	122	350	23.5
Brazilian (face-me-I-face-you) buildings	142	346	167	153	263	1071	71.9
Total (%)	201 13.5%	436 29.3%	226 15.2%	221 14.8%	405 27.2%	1489	100.0

Source: Author's Data Compilation from the Iseyin LGTPD's Plans' Records, 1996

The above table reveals a very sad situation in which for a period of five years (the Director of town planning said that it is even longer than that) no single application was received throughout the town for the construction of not just mud compounds but any mud building at all. This is another confirmation of the rapid decline of the traditional compound and very soon of any mud house in the society. This situation led the author to find out the causes of the apparent decline and the near-extinction of the age-long house form.

The traditional builders suggested that the rapid decline in the number of local builders was a major factor contributing to the decline of the mud compounds. Only 18.8% of those interviewed were still engaged in the construction of mud compounds. Some of the problems facing the traditional construction industry as identified by the builders include the changing tastes of people for foreign designs resulting from improved socio-economic status, less qualified craftsmen, lack of space in the inner areas, and the lack of sanitary facilities characteristic of compounds. To the builders, therefore, Western education (50%), escape from family responsibilities (14%), locational and technological obsolescence (6%), improved economic status (18%) as well as enhanced social status (12%) of members of the society are some of the factors influencing the decline of the traditional compound in Iseyin. The staff of the ILGTPD were also asked to identify the causes of the decline. Their suggestions are similar to what the builders identified (table 27).

Until the arrival of the colonialists into Yorubaland, the traditional compound was thoroughly integrated within and sustained by the society with virtually no change observed in forms as well as processes. One major influence has been the technological advancements of the last couple of centuries which have become so powerful and penetrating that they have forced themselves into many societies, including traditional Yoruba society, bringing in dramatic changes into societal, physical and cultural boundaries. The result is the inability to sustain the traditional compound any longer as reflected in the fast rate of decline.

Table 27: Factors Responsible for the Decline of Traditional Compounds in Iseyin

Factors	Identified by Planning staff	Identified by Traditional Builders
Modern technology	X	X
Break-down of extended family system	X	X
Need for privacy	X	X
Western education/modernization	X	X
Individualistic life-style	X	
Colonialism	X	
Foreign architectural designs	X	X
Imposition of architects' personal creations/innovations	X	X
Need for sanitary facilities in buildings	X	X
Improved socio-economic conditions	X	X
Tendency to imitate (copying blindly)		X
Disregard for tradition & culture	X	X
Planning regulations		X
Migration	X	X

Source: Author's Field Survey, 1996

Ujam and Stevenson note the attempts by architects to impose their generic observations of form and functions on householders in non-Western countries using typologies derived from Western traditions.

Adding insulation made from synthetic materials or Arabic 'wind-towers' as objects to an office block does not integrate a 'green' solution in terms of cultural considerations and sustainable design. The workers may not identify meaningfully with the 'new' thin insulation making 'thin' walls or the culturally alien wind towers; they may well relate more easily to thick walls, opening windows, plants and natural materials which have a history of local evolution and cultural identity for them.⁵⁰

Fletcher observes that

materials are the media in which architecture is expressed. Style is created by the discoveries of experiences or genius out of the qualities of the materials employed. Changes of style are forced on by the use of new materials; to which at first the old forms are applied...Egyptian style...changed from a mud architecture to one of stone and granite; West Asiatic architecture, starting from mud types, developed through brickwork; the Grecian from an Archaic or early wooden type, changing in the best periods to marble; and the true architecture of Rome seen to be brickwork and concrete...the modern period is a mixed period, the age of iron and steel.⁵¹

In Nigeria today houses built with mud (laterite) or landcrete for walls, coconut or palm tree timber, or teak trees in rafters or roof-frame, and galvanized corrugated iron sheets for the roofing are no longer readily acceptable as standards for people who want Western-style homes. Rather, new houses must be constructed of cinder or cement concrete blocks, lumber, iron and steel, aluminum, and glass.

Table 28: Factors Influencing the Decline of Compounds as Identified by the Public

Factors	Frequency	Percent
Westernization	28	24.8
Affluence/improved standard of living	13	11.5
Changing taste	12	10.6
Increasing value of land	10	8.8
Modern technology	10	8.8
Modern (exotic) architecture	8	7.1
Decline of tradition	8	7.1
Town planning standards	7	6.2
Urban renewal	5	4.4
Rural-urban migration	5	4.4
Craze for individual/personal houses	4	3.6
Limitations of traditional compounds	3	2.7
Total	113	100.0

Source: Author's Field Survey, 1996

The factors influencing the near-extinction of the traditional compound as identified by members of the public interviewed in Ibadan are presented in table 28 above.

Alsayyid in his discussion of nationhood and the influences of modernity observes that in the Arab Middle East important and irreversible decisions had been made during the era of colonialism that affected the production of the built environment. New building codes had been introduced based on Western norms which required building set-backs from the street that forced the traditional courtyard house out of existence and was replaced by banal single-family dwelling units that were unsuitable from a climatic point of view. He observes further that in Turkey "modern" building codes often prohibited the use of wood, an indigenous material in some regions, and specified that it be replaced by concrete blocks.⁵² As Barati, Ujam and Ryan observe, the pressure of globalization has forced many indigenous environmental patterns and functions towards the forms associated with Europe, or more generally, with the West.⁵³

The foregoing paragraphs explain in part the near-extinction of traditional compounds in Iseyin, the true picture in other towns and villages in Yorubaland as well. In recent times there has been increased desertion of traditional residential quarters to new and modern ones. This is very common among the middle- and upper-income groups, who regularly choose to leave their traditional homes and build new ones. Lowry adduced three reasons for this: (1) technological obsolescence such as plumbing, electrical wiring, heating, and air-conditioning systems (though this is not the case in the compound); (2) style obsolescence (traditional uniform patterns giving way to novelty in buildings, alien ideas, methods, forms and idioms), and (3) depreciation.⁵⁴ To these factors Grigsby added site obsolescence, and locational obsolescence whereby people are no longer satisfied with the location of their existing home.⁵⁵ There is a slow process of migration away from the old residential quarters by individual

members of the extended or multi-family group, a situation being triggered by the negative relationship between "traditionalism" and "modernism" on the one hand, and socio-economic status on the other.

Modernization is the process by which individuals change from a traditional way of life to a more complex technologically advanced, and rapidly changing style of life...[The] model of modernization connects the antecedent variables of literacy, mass media exposure and contact with the outside world (cosmopolitaness), via empathy, achievement, motivation and a decline in fatalism, to changes in the willingness to innovate, in political knowledge and in basic aspiration.⁵⁶

Van Hoey, in an analysis of changes in the social structure of the Niger Republic, saw the changes as

a differentiation and release of sub-groups (slave households, conjugal households) and membership categories (slaves, youths, married women, and junior heads of households) from formerly integral structures (local groups, village groups, agnatically extended households) for participation in expanded networks of interdependence.⁵⁷

Materials as well as style of house construction have changed; corrugated zinc sheets have replaced those of grass and leaves; local earth for walling is been increasingly discarded in favour of sandcrete, cement blocks (of lesser thickness as mud/clay walls), and squared non-local timber for doors and windows; flat asbestos cement sheets and fireboard for room ceilings have replaced the local split-bamboo ("polished" by years of gentle smoke from fire places), and earth ceiling. In use now are glass for windows, and paints for joinery and walls. All these have led to a very high capital cost in buildings all over Nigeria.

5.2.9.1 *Implications of the Decline of the Compound*

Kevin Carroll observes that "many traditional Nigerian architectures have become extinct in the last fifty years, and it seems unlikely that any will survive beyond the early years of the next century." ⁵⁸ The ongoing decline of Yoruba compounds could perhaps be the

manifestation of Willett's prediction that most of the Yoruba traditional house treasures were destined to be lost.⁵⁹

This study has been able to establish in more concrete terms, through the case study, one of the assumptions presented earlier in thesis that:

the traditional Yoruba architecture -- the compound (*agbo ile*)-- has declined very rapidly in the last 30 years and that at the current rate of decline of 15.4 compounds per year, there would be no single *agbo ile* left in Iseyin by the year 2009.

The more rapidly growing cities of Ibadan, Lagos, Osogbo, Abeokuta, Akure, Ondo, Iwo, Saki, Oyo, and Ogbomoso, to mention just a few, may even lose what remains of the traditional compound at a much faster rate. The decline or extinction of *agbo ile* has a lot of implications. When the rich stock of Yoruba traditional compounds is replaced with real estate development, people may lose one of their chances of socio-cultural identity. Amerlink quoted Hassan Fathy as describing how "a loss of tradition implies a loss of knowledge, of craftsmanship."⁶⁰ In his study of Mexican Purepecha building, Amerlink notes that there has been contempt for traditional forms (especially in the last seven years) and that "the loss of tradition and prestige...now threatens the Purepecha building tradition with extinction".⁶¹

In an attempt to achieve "privacy" new "modern" buildings in most Yoruba towns and cities have been, as a matter of policy, fenced round by concrete walls, sometimes taller than the buildings within them. The cost of the fence walls in many instances will complete a four-room mud house (plates 32, 34, 35). In Saudi Arabia, as Alsayyad reported, "a society that cherished privacy, residents built free-standing walls often as much as forty feet high to shield themselves from their neighbours in modern houses that have replaced the traditional courtyard houses."⁶²

Another consequence of the decline of *agbo ile*, and other traditional architecture, is that the Nigerian construction industry has been unable to keep pace with the demand for housing

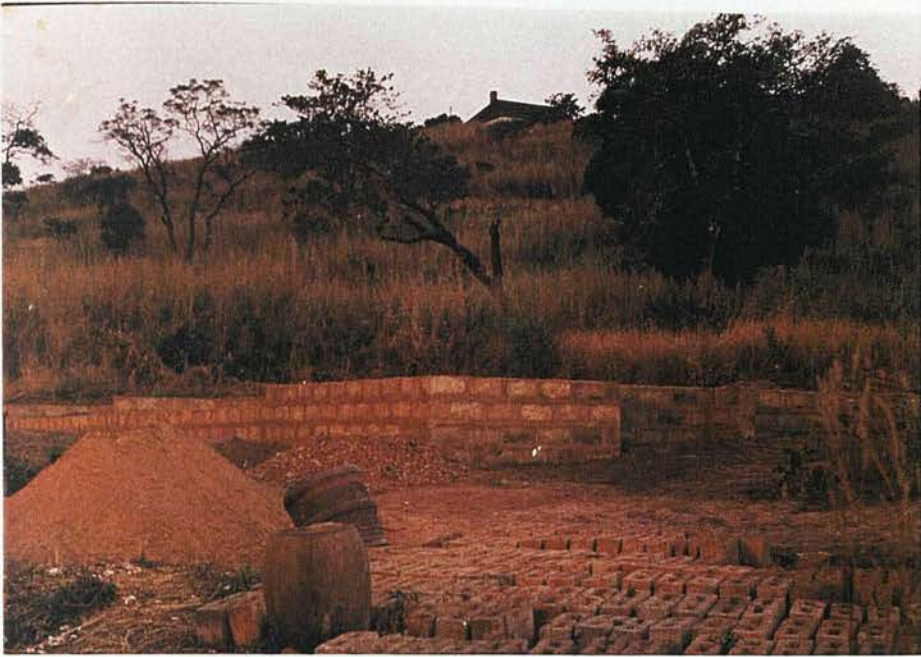


Plate 33: An example of new housing projects abandoned at the foundation stage by the owner as a result of the high cost of cement and sand for moulding blocks as well as the high labour fees. The project site is within the Ado-Awaye scheme of Iseyin local government town planning department.



Plate 34: A completed modern residential development within Koso residential scheme. The building walls and the fence are of cement blocks; the storey building has a concrete roof lined with perforated (fancy) cement blocks. The cost of construction was put at 4.5 million naira (0.4 million pounds).

because most of the raw materials for building modern houses, now the craze or order of the day, are imported. The prices of the materials also make it difficult to produce high-quality homes as the demand for housing increases. This dependence on imported building materials has definitely contributed to the current costs of houses. The responses of those interviewed corroborate this.

A market survey in Iseyin carried out in March 1996 reveals the costs of some basic building materials: a tipper-lorry load of sand at 1,000.00 naira (88 pounds); a load of laterite (swish mud) soil at 350.00 naira (30.8 pounds); a load of gravel at 2,000.00 naira (176 pounds); a ton of cement at 10,000.00 naira (880 pounds); and a bundle of corrugated iron roofing sheet at 8,000.00 naira (704 pounds). Excluding the fees for carpenters, bricklayers and excluding the costs of plumbing and electrical materials and fittings, a 3-bedroom modern house will cost a minimum of 1.3 million naira to construct. Architect Debo Balogun, a licensed and Principal Architect with the Oyo State Ministry of Works and Transport, Ibadan, gave a unit cost (as at December, 1996) of constructing a 3-bedroom house of 227 sq m. as follows:

Using sandcrete blocks: 7,500.00 naira per sq m. = 1.703 million naira (0.15m pounds)

Using burnt bricks: 5,500.00 naira per sq m. = 1.249 million naira (0.12m pounds)

Using mud/clay: 2,500.00 naira per sq m. = 0.568 million naira (0.05m pounds)

The above cost includes plastering of the walls, plumbing and electrical fittings even for the one constructed of mud. The cost for the mud wall will even be lower if the usual participation of the house-owners are put into consideration. It should be mentioned that the minimum wage in Nigeria at present is 500.00 naira per month. Without a co-operative effort, therefore, a minimum wage earner will save all her/his wages for 3,406 months to be able to build a 3-bedroom sandcrete block house! (see plates 31 and 32).

Table 29: Implications of the Decline of the Traditional Compound as Identified by Members of the Public interviewed in Ibadan.

Implication	Frequency	Percent
Loss of cultural heritage/value	17	13.8
Increased housing demand	16	13
Increased prices of building materials	16	13
Loss of indigenous landscape/farmlands	16	13
Break-up of extended family system	11	9
Increase in planned residential neighbourhoods	9	7.3
Increased housing shortage	8	6.5
Increased use of imported building materials	8	6.5
Rapid expansion of towns	7	5.7
More nuclear family housing	7	5.7
More infrastructural facilities	5	4.1
More privacy	3	2.4
Total	123	100

Source: Author's Field Survey, 1996

One great fear with the impending extinction of the compound is that a total decline will wipe out the cultural memory of the people regarding their ancestral architectural heritage and value. Of greater consequence is perhaps that the required "bridge" between the past and the present will be broken.

The urban renewal project which was aimed at "transforming" Maroko (a traditional area of Lagos) only succeeded in displacing, forever, the indigenous population of Lagos who lived in their traditional houses best suited to their aspirations. The traditional architecture was completely bulldozed between 1989/90 on the order of the Military Administrator of Lagos State, the then Col. Raji Rasaki, to be replaced by concrete buildings to which the displaced residents have no access. This is similar to the ambitious housing regeneration programme

initiated in 1990 by the People's Municipal Government of Beijing (the Beijing Housing Renewal Program, BHRP) to revitalize the historic quarter of the city. The BHRP led to the physical transformation of Beijing in terms of its traditional character and its residential typology -- the courtyard house (*siheyhuan*) and its residential lanes (*hutongs*) which were so threatened. Existing structures were completely demolished and were replaced with multi-storey buildings. The courtyard houses originally occupied by a single extended family now accommodate multiple households; the new houses are inadequately serviced; and the whole demolition represents a serious loss of valuable architectural heritage.

Jaulin observes that:

the replacement of a thatched, communal dwelling (the *Bohio*) used by the Motilone Indians on the border of Colombia and Venezuela, which is dark inside, with an earth floor and open cooking fires, by modern dwellings, with light, cross-ventilation, concrete floors, and separate kitchens, was not only not an improvement but had disastrous consequences -- destroying the culture and leading the author to describe these 'improvements' as 'ethnocide'.⁶³

As ancient languages and cultures are lost with the passing away of elders, lost also are the specialized vocabularies that reflect unique traditional strategies for dealing with the challenges of providing shelter, health care and sustainable food production in ecologically fragile environments.⁶⁴

The market value of land will continue to rise thereby increasing the cost of house construction with the implication that more and more people will not be able to afford a piece of land on which to build on. In the pre-colonial period, land in Iseyin as in most towns in Yorubaland, had no market value, and therefore was not sold or bought.⁶⁵ As was mentioned above, land was held corporately by a lineage (family land, *ile ebi*). However, the British colonial administration introduced three laws relating to land in Southern Nigeria, namely the Native Land Acquisition Proclamation No. 1 of 1900 designed to control the purchase of land by non-Nigerians; the Land Registration Ordinance No. 15 of 1907 which instituted compulsory registration of all sales of land with the colonial government; and the Crown

Lands Ordinance No. 13 of 1908 which regulated the management, control and disposal of Crown Land.⁶⁶ Following from this, land as a saleable commodity has become highly manifest in all major towns and cities in Yorubaland at present to the extent that in Iseyin families now put their family land (*ile ebi*) on sale with or without a subdivision plan. As at December 1995 there were a total of 19 such family layouts registered with the ILGTPD with several unregistered ones scattered all over the town. A 15m by 30m residential plot on Iseyin LGTPD scheme costs 10,000.00 naira (880 pounds) while the same size on private families' layouts costs a minimum of 4,000.00 (352 pounds).

Western ideology and life-styles, importation of Western technology and products have become goals and ideals of life for many young and affluent Yoruba people in recent times. Among the more traditional and older (albeit poor) people or groups, the mud compound is the measure of group identity, whereas among the younger, more modern group (albeit wealthy and literate), the modern or Western-style houses are used to communicate status and individual identity. Thus, social cohesion and group living (which are important aspects of Yoruba culture) which the compound fosters, reinforces, and helps to achieve are seriously threatened and may soon give way totally in the next couple of decades.

Turgut observes in her study of the traditional Turkish house that today the traditional environment which once formed the harmonious surroundings of Anatolian people is being destroyed in Turkey as a result of dramatic changes caused by industrialization and Westernization. Turkish architectural tradition, created by a socio-economic structure which no longer exists and a building construction technology which is being gradually abandoned, has lost its validity. Design products, including housing patterns prepared originally for the cultural groups of Western countries, are being applied to Turkish cultural groups.⁶⁷ This echoes the current experience in Yorubaland.

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6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary

Houses are an expression of the needs (socio-psychological, physical, individual and group) and desires of people (aspirations and way of life) and the requirements of both the cultural and physical milieu. In Yorubaland, Nigeria, houses are of great significance in the provision of shelter in addition to their other functions -- economic, religious, defence, administration, and cultural. The Yoruba compound, *agbo ile*, is the centre of family activities; it provides facilities for cooking, sleeping and protection from enemies, animals and the elements. Given the cultural centrality and social significance of *agbo ile* among the Yoruba whether for the purpose of shelter or for its symbolic value and content, the need to explore this vital area of human endeavour can not be over-emphasized.

As stated in Chapter One (pp.1-8), this thesis is concerned with the traditional compound of the Yoruba of Nigeria. The study has uncovered those issues relating to the historical development of *agbo ile*, its significance in the life of the people, its form, materials and method of construction, functions of various elements, facilities and maintenance, as well as the current state of the compound within the society. The study specifically deals with the issues of decline of the compound, the causes, magnitude and implications using Iseyin as a case study. The research looks at the various dimensions of urban society and how they have infiltrated into the socio-cultural life of the Yoruba, producing such consequences as the decline of the extended family system, changes in societal attitudes, the abandonment of the traditional house form in favour of self-contained, single-family mansions in secluded estates.

The traditional Yoruba towns and cities are closely-packed aggregations of

compounds and craftsmen's workshops situated around an area of common interest -- the king's palace and the town market -- where commercial, socio-cultural and leisure activities were held. From the centre narrow streets radiate outwards to divide each town into residential quarters, *adugbo*, composed of *agbo ile* which is the inheritance of one or more extended families. The process of growth of Yoruba towns is the vernacular design process in which the towns are shaped and gradually adjusted by the people through constant experimentation. There is a shared image of life, an accepted model of buildings, and an accepted settlement pattern -- all influenced by the forces of culture and tradition. The compounds require but little skill to erect them and almost every person is an "architect" for the purpose. The whole neighbourhood afford their unanimous assistance in building the compounds, and in turn, receive and expect no other compensation than a feast in a reciprocal manner. In the pre-colonial Yoruba society, a zonal arrangement is the characteristic framework of the towns; expansion is gradual and towards the town walls. The modern Yoruba towns are, however, highly differentiated as reflected in the physical isolation of differing populations. Various areas of these large towns may be distinguished by the occupations, incomes, levels of education, social class, political affiliation, number and type of amenities, form and quality of housing, demographic structure, fertility rates, degree of social interactions, size of family as well as life cycle, rates of marriage, separation, tenorial pattern, and kinship activities. Other variables are ethnic background, religion, state of origin, needs, values, opinions, and languages.

The preceding chapters have presented the dramatic changes that have continued to take place within the traditional residential quarters in Iseyin. The traditional compound, *agbo ile*, has continued to disintegrate and decline at a tremendous rate. The survey establishes that between 1966 and 1996 out of a total of 708 compounds that existed in Iseyin 462 have declined or gone into ruins leaving only 246 compounds that were still habitable. If that trend

continues, which is likely if no action is taken, there may be no single *agbo ile* left in Iseyin by the year 2009. This situation calls for some form of intervention if the poor members of the society, to whom *agbo ile* offers shelter, comfort, security, socio-cultural identity and suitable life-style are not to end up being homeless -- a situation which may only worsen housing problems in the society.

Changes within the traditional residential quarters are taking place because of a plethora of factors including a slow process of migration away from these quarters by individual members of the extended family resulting from the weakening of the extended family system and the variety of job opportunities in the contemporary society. Other factors include the Christianization and Islamization of the society, with their attendant preference for single-family living; modernization; Westernization; politics and government policies; the ever expanding technology; and the craze for novelty in building design and construction.

The study observes that the newly developing parts of Iseyin, which represent the picture in similar towns, rarely contain the traditional mud compounds. Most people who build houses in these new areas are relatively affluent people, elites, politicians, both serving and ex-local government functionaries all of whom find the newly developing areas "more suitable" for their newly acquired socio-economic status. Local government town planning and physical development policies have continued to favour newly developing parts of the town at the neglect of the indigenous areas. In all the six local government planning schemes existing in Iseyin at the time of survey the author did not find a single mud compound. However, it is interesting to note that there are modern courtyard houses in at least four of the schemes. The houses are built with an inner courtyard as found in the traditional compound but the walls are mostly of cement blocks; the roofs are of corrugated iron/asbestos sheets; they have wells, and also built-in water closet toilets, kitchens and bathrooms.

One of the consequences of the above changes is the increase in smaller self-contained domestic units or single-families in place of the large compounds (fig. 29). Materials as well as styles of house construction have also changed. Traditional methods of building are often associated with the use of off-site materials, involving a high labour content in the supply of water from wells and brooks, the felling and transportation of forest wood or local timber, and the preparation of swish-mud into malleable form. Nowadays vehicles are being increasingly used to transport materials to building sites with an increase in overall building costs arising in part from high prices of motor fuel, high cost of vehicle spare parts and maintenance, contractors' fees, and other overheads. The modern buildings are thus characterized by high-cost, high-technology, and high energy.

The study further discovers that some traditional compounds which have direct access to busy roads are being converted into mixed uses especially residential and commercial. Rooms along the sides that abut the road are the most vulnerable to conversion into shops. Doors are created on the hitherto blank walls to provide direct access to the roads (see plate 35). This is the situation with such compounds that are located along all primary and secondary distributors in Ibadan (Agbeni, Beere, Orita-merin, Oranmiyan, Popoyeosa, Oje, Labiran and Oke-Padre among others), Oyo, Saki, Ogbomoso to mention a few. This appears to be an established trend on which one can conclude that the decline of compounds in the communities will increase with proximity to distributor roads.

One of the objectives of this study is to find a way of making the compounds more appealing to the residents, thereby halting or reducing the high rate of desertion through improvements in the structure of the compounds in a way that will enable these compounds to meet the sanitation and other related requirements of individual members of the compound population. In order to preserve the highly-held social and cultural values of the traditional compound, there is need for its revival. The revival may not be full or hundred percent,



Plate 35:

The bungalow at the foreground in plate 35 is a section of Aruwa Compound in Ijemba area of Iseyin. The entire side of the compound along the Ijemba-Sagbo road has been converted into lock-up shops. This is what is currently happening to most compounds which have direct access to distributor roads not only in Iseyin but in all major towns in Yorubaland.

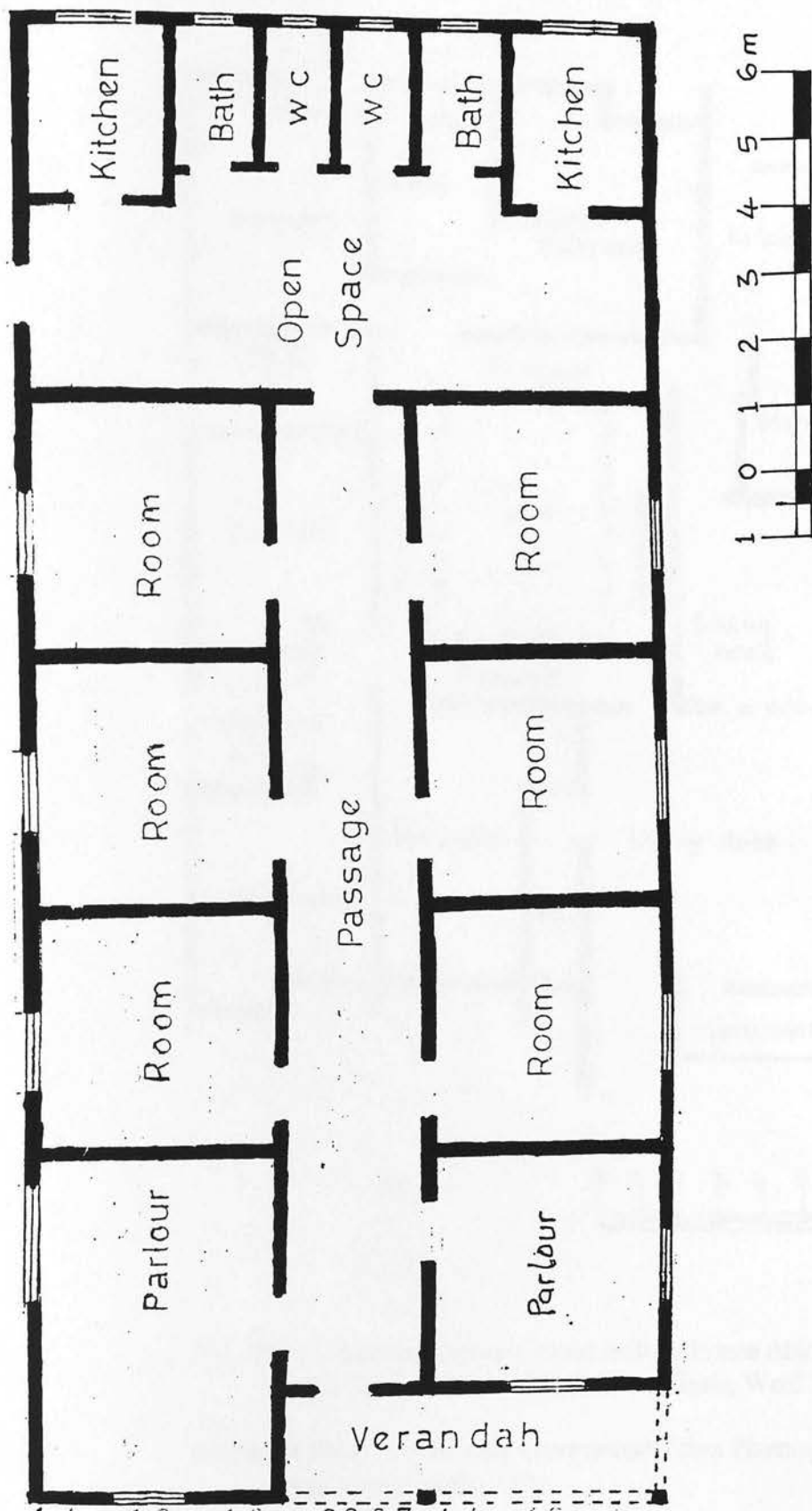


Fig. 28: A "Brazilian" House type built by Mrs. Sikirat Asake at Oke-Aro area, Isalu, Ward 5, Iseyin. The walls are of cement blocks.

Source: Author's field measurements, 1996.

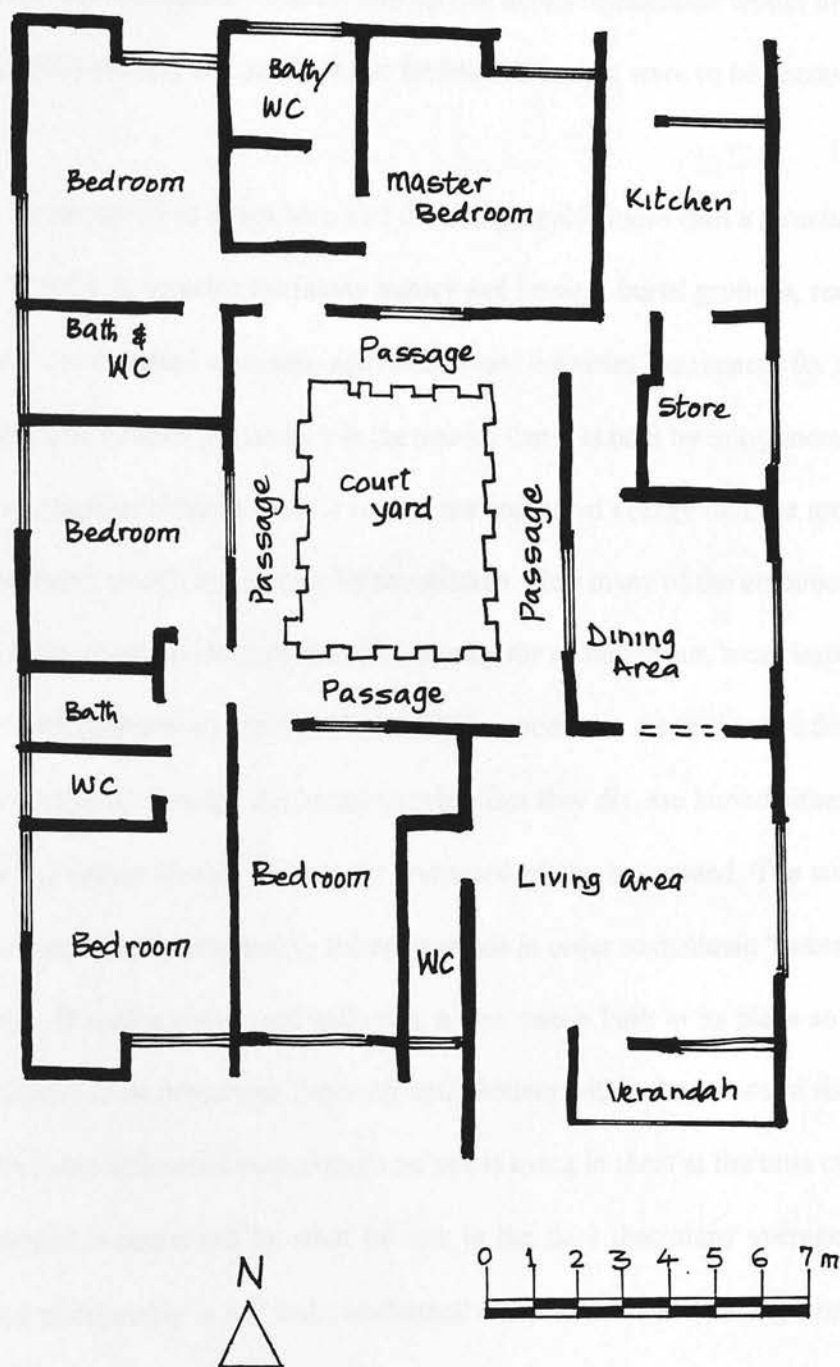


Fig. 29: A modern courtyard house built by Prince Abiola Wuraola on Block XVII, Plot 2, Ebedi Estate, Isalu, Ward 5, Iseyin.

Source of Plan: Iseyin Local Government Town Planning Department, Iseyin, 1996.

that is, the traditional compound in its old form and characteristics may not be acceptable "across the board" in contemporary society and certain things or elements would need to be introduced, especially sanitary and similar basic facilities, if people were to be encouraged to live in it.

It may be necessary to stress here that the compound is more than a structure or an artifact for the Yoruba. It contains the family history and lineage, burial grounds, recreation, home-based crafts and related economic activities, social activities, and spaces for worship. The compound is thus timeless, particularly in the manner that it is built by one generation and passed on to succeeding children while it retains the embodied energy that the group puts forth to achieve health, wealth and success for the children. Thus many of the compounds may continue to be maintained, and thus preserved, not only for nostalgia but, more importantly, to maintain the socio-cultural and spiritual link with the ancestors. As seen in the floor plans of some of the compounds (see fig. 30), many people, after they die, are buried either in their sleeping rooms or within the corridor or the courtyard of the compound. The successors usually become sentimentally attached to the compounds in order to maintain "contact" with their loved ones. If such a compound collapses, a new one is built in its place so that the graves may continue to be preserved. Some old mud houses within the palace of the Aseyin of Iseyin are still being maintained even though no one is living in them at the time of survey.

This author is convinced by what he saw in the field that many average-income persons can live comfortably in a Yoruba traditional compound once some adjustments are made to the technological (service) spaces. The old form of traditional compound, *agbo ile*, can still be used with a great deal of success. There are examples of new houses in the form of *agbo ile* built in Iseyin with both mud bricks and cement blocks and provided with basic sanitary facilities.

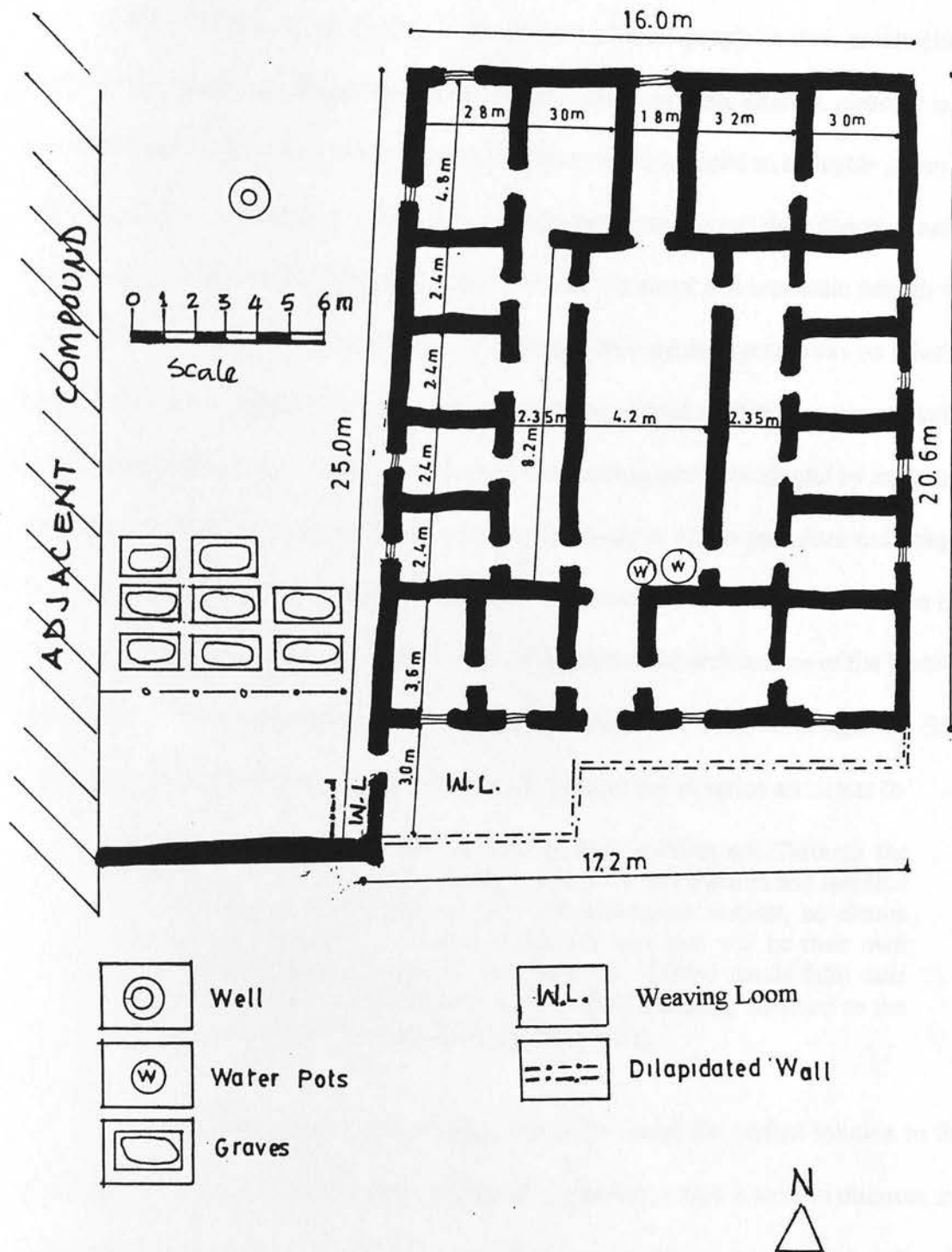


Fig. 30: The plan of Balogun Ogede Compound, Oke-Oja, Ward 7, Iseyin (PHC 01/005/091). Note the concentration of graves of the family's ancestors. The traditional strip-weaving takes place in this compound.

Source: Author's field measurements, 1996.

With conscious re-awakening of the interest of local people in their architectural tradition, the Yoruba traditional compound, *agbo ile*, may never die after all. *Agbo ile* is an important component of the people's cultural tradition which is found to be highly dynamic. If the people are encouraged to create and recreate the compound to suit their changing needs and in a manner that reflects their capability, the society's social and economic growth will only enhance the value of the traditional compound. There are divergent views on whether or not traditional or indigenous building forms should be revived. Ralf Weber represents the school of thought that sees "the attempt to make architecture more meaningful by exploiting the forms of the indigenous...as futile. A return to the styles of the past does not bring a resurrection of the meanings connected with them".¹ The result of the survey undertaken in this study dismisses Weber's position on the revival of the traditional architecture of the Yoruba. A majority of the people interviewed expressed the desire for the revival of *agbo ile*. This author identifies with Dmochowski's advise to the present day Nigerian architects to

seek inspiration from the glorious past of their building art. Through the intense study of the functional planning, remarkable construction and splendid form created by their ancestors, they will develop an instinct, an almost subconscious capacity for shaping space in a way that will be their own continuation of the work done by their forbears ...[They] should fulfil their duties to the 20th century Nigerian society...[by] accepting tradition as the starting point of their creative, independent thinking.²

The input of this study is not to claim that it has found the perfect solution to the problems of the decline of the Yoruba traditional compound; rather it aims to discover the causes and magnitude of the decline and provide an opportunity to consider and review, in order to help halt the impending extinction of the "people's architecture."

6.2 Conclusions

Arising from the survey conducted and the analysis made, the following conclusions are drawn regarding the state of the Yoruba traditional compounds. The conclusions address the objectives of the study as well as the assumptions made at the outset.

- The Yoruba traditional compound, *agbo ile* has declined very rapidly in the study area in the last 30 years at the rate of 15.4 compounds (2.2%) per year.
- Given the rate and magnitude of decline there may be no single traditional compound left in Iseyin by the year 2009 unless there is a positive intervention.
- Westernization, modern technology, monetarization of land, affluence and improved socio-economic status, changing taste, break-down of extended family system, government policies, urbanization, Christianity and Islam are the basic factors responsible for the decline of the compound.
- The traditional compound is deficient in sanitary facilities especially toilets, in-built kitchens, and bathrooms which is why some people are deserting it. If these facilities are incorporated into the remaining compounds, a lot of people are willing to live in the compound.
- The present lack of interest of practising architects in Nigeria in promoting indigenous house designs and the use of local building materials, their egocentric and individualistic postures, and their overdependence on sophisticated (albeit) inappropriate technology to achieve their complex and "super-aesthetic designs" are making the traditional compound less appealing to even the poor members of the society.
- The extended family system is declining in contemporary Yoruba towns and cities.

The trend is most likely to increase in magnitude with increase in literacy level, improved socio-economic status, urbanization and Christian-Islamic religious practices. This will result in further abandonment of the compound and their replacement with self-contained, single-family and foreign-styled houses.

- The decline of the compound in the community studied will increase with proximity to distributor roads. Compounds located along primary and secondary roads are highly vulnerable to conversion into especially commercial and light industrial uses. Such compounds would almost certainly be pulled down and replaced with either shop/office blocks or modern residential/commercial buildings.
- Outward migration of people from Iseyin in search of better jobs is leaving habitable rooms in many compounds unoccupied. Such rooms are completely abandoned and eventually collapse as their owners, rather than return to them, move to single-family houses.
- In no distant future each of the surviving compounds will most likely contain a mixture of traditional and modern materials/elements. More people will like to have easy access to electricity, better ventilation, fire-resistant roofs, and sanitary conveniences in their homes.
- The traditional compound is dynamic and highly responsive to improvements. The ability of the compound to adapt to changing requirements of the occupants including needs for toilet, bathroom, kitchen, electricity and piped water, as and when affordable, makes the compound highly appropriate as a measure to achieve sustainable housing in Nigeria.
- The communal living habit of the people still persists. Facility sharing and resource-pooling are still very popular. The indigenous practices can be exploited in the provision and management of basic infrastructural and community facilities especially

access roads, culverts, drains, street lights, communal toilets, and organized refuse dumps.

- Most residents of traditional compounds are observed to be very poor and the present high rate of inflation in Nigeria has made house construction unaffordable to the majority of the citizens. The compound in its improved form is what a large percentage of the people would be able to afford with their constantly low income.
- A total decline of the compound will impact negatively on the existing housing stock and may wipe out the cultural memory of the people regarding their indigenous architecture thereby breaking the required "bridge" between the past, present and future.
- Both compound residents and a cross section of members of the public support a revival of the traditional compound, albeit with the incorporation of sanitary facilities. With evidence of modern courtyard houses being currently built in Iseyin, the concept (layout) and principles of the traditional compound will be sustained in the society for sometime to come.
- *Agbo ile* may not "die" completely. Public awareness can revive and preserve the local building knowledge and when that knowledge is sustained it may be difficult for the *agbo ile* (the "people's architecture") to be wiped out.

6.3 Recommendations

This thesis anticipates the development of a process which ensures that future housing projects in the community studied will be organized through appropriate development stages in an effective and sustainable manner. This section of the thesis presents some guidelines to help begin the development of the integrative process of reviving traditional habitation

practices of the Yoruba through a careful utilization of indigenous knowledge and appropriate modern knowledge.

Since one is concerned with the juxtaposition of indigenous and modern ingredients in residential patterns, one can assert that in no way are interventions likely to be wholly indigenous or wholly imported. Whether in the design of new houses and the rehabilitation of existing compounds, advantage has to be taken of modern technology while local socio-cultural values are retained and respected. The objective here is to create housing that is both sustainable (in concept and provision), and suitable to all members of the society being studied. While one is not advocating a total attachment to tradition and familiarity, it needs to be emphasized that too much novelty and originality in housing are likely to produce further ruptures with the cultural values of the Yoruba. Stock solutions, 'cook-book recipes' and blind adoption or outright copying of new values and forms from elsewhere have proved unsuccessful in many instances and only produced third rate imitations and transplants.³ Learning from the experience of others, while remaining aware of one's own unique situation, is one way of making the best of international experiences. The following paragraphs present recommendations towards the attainment of the objectives of this study.

6.3.1 Reviving the Traditional Compound

There is need to "regentrify" and preserve the traditional compound as a way of keeping alive the historical continuum if only to make people aware and appreciate the historical, architectural, social, and cultural values of the Yoruba as reflected in the traditional compound. The Museum of Traditional Nigerian Architecture at Jos has a great role to play in the preservation and propagation of the Yoruba traditional architecture in order to ensure its continuity and preserve its vitality.

At the national level policy makers need to understand the values of the concept and practice of the traditional compound rather than blindly go for high-technology, high-cost, and high-energy materials for housing just because the modern materials are costlier. The fact that cement blocks cost more than mud-bricks, or plywood flush-doors cost more than carved hardwood doors does not make cement blocks and plywood flush-doors more efficient and suitable than mud-brick and carved hardwood doors. The hardwood doors have been found to be much stronger and durable than the flush-doors in the study area.

The foregoing paragraphs lead us to the issue of revival of the traditional compound. The author asked members of the public for their opinion about whether or not the traditional compound should be revived and, while 74% said "yes", 26% said "no." A cross tabulation was prepared to find out how many of those who said "yes" ever lived in a compound before. Table 30 below shows that 73.7% of those who have lived in a compound want a revival of the compound. Interestingly, 75% of those who never lived in a compound want the compound revived.

Table 30: Opinions of members of the public who lived in traditional compounds as to its possible revival.

Lived in compound	Revive Compound No. %	Don't Revive No. %	Row Total No. %
Yes	28 75.7	10 26.9	38 76.0
No	9 24.3	3 7.7	12 24.0
Total	37 (74.0%)	13 (26.0%)	50 100.0

In this crosstab $p > .05$ (i.e. 0.92 which does not convey any significance).

Source: Author's Field Survey, 1996

This researcher was struck by the nature of the response received as his initial expectation was that only those presently living or had once lived in a traditional compound were likely to advocate or support its revival. There seems to be more support (1.3% more)

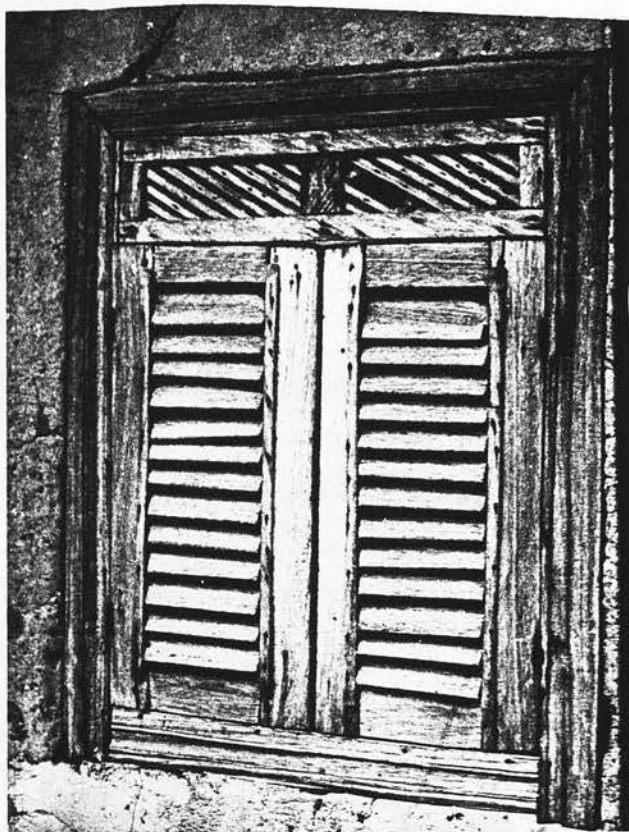


Plate 36: A wooden-louvred window recorded at Omo Compound, Gbogan, Osun State, Nigeria. This type of window is produced by the local carpenters as a substitute to the glass-louvred windows. Alhaj Amusa Akanji of Areoje Compound, Isalu, Iseyin, one of the popular local carpenters in Iseyin, informed the author that the wooden-louvred shutter window is preferred by the local people because it is cheaper to provide, more durable and also stands the least risk of breakage.

Source of Plate: Oyeyinka, A. O. (1996), *op. cit.*, p. 39.

from those who never lived in a compound compared with those who have experienced compound living. One can deduce from this analysis that there is some measure of acceptance of the traditional architecture by a cross section of the public and that any well-intended policy or intervention for its revival will likely succeed.

The survey further sought to determine the profession of those who want the compound revived. They were grouped into two categories: designers (10 architects, 10 town planners, 4 civil engineers, and 5 public health workers), and non-designers (6 teacher educators, 6 quantity surveyors, 2 public administrators, 2 industrial chemists, 1 journalist, 2 accountants, 1 electrical engineer, and 1 barber). The cross tabulation generated is shown in table 31 below. 89.7% of the designers and 52.4% of the non-designers want the compound

Table 31: Support for the Revival of the Traditional Compound by Designers and Non-designers.

Profession	Revive Compound		Don't Revive		Row Total	
	No.	%	No.	%	No.	%
Designers	26	70.3	3	23.1	29	58.0
Non-designers	11	29.7	10	76.9	21	42.0
Total	37		13		50	100.0
	(74.0%)		(26.0%)			

Source: Author's Field Survey, 1996

revived. Again the result of the analysis is suprising as one had anticipated that a larger proportion of the designers would not support the revival of the compound to enable them flood the housing market with high-tech houses. In the above crosstab $p < .05$, that is, the value of significance is .003 which is a significant result. This suggests that any interventions/policies towards the revival of the compound will most probably be embraced or supported by people across professions in the society.

A third cross tabulation (table 31a) was generated to determine the proportion of town planners and architects out of the 37 people who want the compound revived. 85.0% of the

town planners and architects as well as 66.7% of others want the compound revived. Of all the 50 people interviewed 74% support the revival of the compound.

Table 32: Support for the Revival of the traditional Compound by Architect-Town Planners and Others.

Profession	Revive Compound No. %	Don't Revive No. %	Row Total No. %
Architect-Town Planner	17 85.0	3 15.0	20 40.0
Others	20 66.7	10 33.3	30 60.0
Total	37 (74.0%)	13 (26.0%)	50 100.0

In this crosstab $p > .05$, (that is, .14).

Source: Author's Field Survey, 1996

Attempts were made to predict the public's attitude towards reviving the compound and a discriminant analysis was run. The result was marginally significant and indicated that familiarity with the traditional compound was the strongest variable in predicting whether a person wanted the compound revived.

Logistical regression was also run to predict the attitude of people towards the revival of the compound. Revival was used as main variable against six covariates: familiarity with compound; whether a person ever lived in a compound; whether he/she still live in a compound; whether a person can live in a compound; whether he/she will live in a compound, and whether the compound permits multi-tenancy. The covariates were combined in various ways. The chi-square generated gave a value of 8.9 and a significance of .029 where $p < .05$. In all, the covariates were found to have a cumulative significance in predicting people's attitude towards the revival of the compound. They show a steady link with a person's support for the revival of the compound. However, willingness to live in the compound has most significant value (.06) followed by the multi-tenancy factor (.13). The logistical regression

analysis was found to be very good at predicting those who live in a compound and wanted the compound revived than those who do not live in the compound but wanted it revived. The prediction rate was 82%.

All the foregoing has clearly established the desire to revive the traditional compound. The opinion of members of the public was sought on why they thought that the traditional compound needs to be revived. Their response is contained in table 31b below.

Table 33: Reasons for Wanting the Traditional Compound Revived as Given by Members of the Public

Reasons	Frequency	Percent
Cheapest to build	18	17.8
Offers more satisfaction	15	14.9
Utilizes locally sourced materials	14	13.9
Suits local climate	13	12.9
Ensures social cohesion	9	8.9
Preserves cultural value	9	8.9
Solves accommodation problems	8	7.9
More airy and healthy	6	5.9
Strong and durable	5	4.9
Guarantees shelter	4	4.0
TOTAL	101	100.0

Source: Author's Field Survey, 1996

Top among the reasons volunteered by those interviewed for wanting the compound revived is that the compound is the cheapest to build out of all house types around. Other reasons are that the compound offers more satisfaction; it utilizes locally sourced materials; it suits the local climate; ensures social cohesion; solves accommodation problems because of the large number of rooms it usually contains; preserves cultural values; it is more airy and

healthy due to the large courtyard it usually contain. The respondents also claimed that the compound is very strong and durable, and it also guarantees shelter especially for the poor members of the society.

The traditional builders were also interviewed separately on the issue of revival of the compound which 93.3% of them claimed was possible and equally desirable. Their suggestions for revival include: the addition of basic facilities; use of local materials; fewer rooms; public education on the advantages of traditional buildings; use of appropriate and relevant modern technique; consulting experienced builders; improvement in the nature of ventilation, and increasing the size of windows (plate 33). There is need to exercise caution on the arbitrary use of large windows in the study area. Hassan Fathy notes that

it has taken men very many years to arrive at the right size for a window in various architectural traditions; if an architect now commits the gross error of enlarging the window till it takes up a whole wall, he is at once confronted with a problem: his glass wall lets in ten times as much radiation as did the solid wall. If now to shade the window he adds a brise-soleil, which is nothing more than an enlarged Venetian blind, the room will still receive 300 percent more radiation than one with a solid wall.⁴

The intention of this author is to present a workable guideline toward solving the problems of the compound as a way of promoting sustainable housing. The author therefore sought the views of members of the public on ways of reviving the traditional compound as they advocated. The contents of table 32 are the various suggestions offered by those surveyed on ways to revive *agbo ile*. These suggestions are enunciated in the following sections of this chapter.

Table 34: Ways of Reviving the Traditional Compound as Identified by the Public.

Suggested Measure	Frequency	Percent
Design and build prototypes	19	18.6
Integrate into planning regulations	14	13.7
Organize public awareness programmes	12	11.8
Architects should encourage its construction	12	11.8
Preserve remaining compounds	8	7.8
Provide adequate socio-physical infrastructure	7	6.9
Integrate into educational curriculum	6	5.9
Provide sanitary conveniences in compounds	6	5.9
Encourage research on traditional habitation	5	4.9
Standardize compound units	5	4.9
Cement block/stone foundation for compounds	3	2.9
Integrate into health regulations	3	2.9
Make rural areas attractive	2	2.0
Total	102	100.0

Source: Author's Field Survey, 1996

6.3.2 Provision of Facilities in the Existing Compounds

This study has revealed the inadequacy of sanitary facilities in the compounds; where these are available, they are in very bad condition. Those residents of compounds without toilets face both health hazards and the problems of how to attend to the call of nature in the dead of the night and in bad weather. It is important, therefore, that each compound has its own toilet or has unrestricted access to a toilet on a self-reliant basis. One will like to observe that the compounds are very much capable of accommodating the required addition of sanitary facilities. The sizes of rooms are such that they make for easy conversion into a water closet latrine and kitchen.

Old and dilapidated compounds should be rehabilitated and provided with the basic facilities not only to offer more comfort to the residents, but also to increase the stock of good housing. Installation of electricity and pipe-borne water is apparently not a problem as many of the compounds surveyed already have electricity while some of them have water stands.

A number of crosstabs that were run demonstrated that the compounds do not differ significantly in their basic properties (see Chapter Five). The crosstabs show a high degree of homogeneity among the compounds whether along the line of age vs wall condition, age vs electricity, residents' job vs maintenance responsibility, tenorial pattern, environmental sanitation as well as type of facilities. This strongly suggests that any type of intervention or policy to be introduced into the compound will probably have a uniform effect or level of acceptability or otherwise.

6.3.2.1 *Kitchen*

The idea of a shared kitchen is and may continue to be relevant in the compounds. Even in the "Brazilian" type of house and shared flats/apartments, occupants always have to use kitchens, bathrooms and toilets jointly as is the case with a number of blocks of "sleeping rooms" around the Iowa State University campus, Ames, in which occupants of eight rooms share one shower and one community kitchen. Van der Ryn and Calthorpe discuss the model in medium-density housing in Sweden and Germany with collective kitchens and dining rooms for residents. They go further to cite the Kibbutz-style housing in Fairfax, California where 4-6 apartments share a cooking and dining space. In all these houses "much greater rates of satisfaction were found on the shared block, higher rates of neighbouring, of knowing people, of outdoor play, and of people feeling secure." ⁵ Rapoport also notes that shared common spaces may foster social interaction as in traditional Indian, Latin American, or Greek villages

and towns,⁶ although, in some cases, it may actually discourage it as observed by Foddy⁷ and Michelson.⁸

The form of kitchen to be incorporated into any compound (existing or new), not only in Iseyin but also in villages and cities in Yorubaland, must be capable of accommodating the use of fuel wood. Not only will there be people who can not afford gas, electric, and kerosine stoves, it is likely that fuel shortages, which have been characteristic of Nigeria since 1992, will continue for sometime into the future and people will be obliged to cook with either charcoal or firewood in their lavishly furnished but small-size kitchen, or cook with firewood on their verandahs. This means that open-air cooking or cooking within verandahs which has sustained compound residents will continue to be relevant in the future.

6.3.2.2 Toilet

The use of the dry pit latrine appears to be more relevant in the existing compounds with their large population. The pit latrine seems to be preferable to the water closet toilet as the latter requires a steady supply of water (and this can be a problem) for proper functioning.⁹ Elmendorf and Buckles¹⁰ inform us that the dry latrine was introduced to Villarrica, Columbia, in those areas where water is scarce. The location of any pit latrine should be away from wells in order not to pollute the local water supply.¹¹ In addition, the pit latrines should have sturdy construction, large pits, reinforcement of the pits, ventilation pipes, and hole covers as implemented in Botswana.¹² Its wall can be of mud, brick, wood, bamboo, used corrugated roofing sheets or rough planks as is found within the traditional residential quarters and most elementary and high schools in Iseyin. The roof should be high enough to allow adequate ventilation.

The group notion of hygiene coupled with those of economy in the provision and

SECTIONS THROUGH AQUA PRIVY SYSTEM

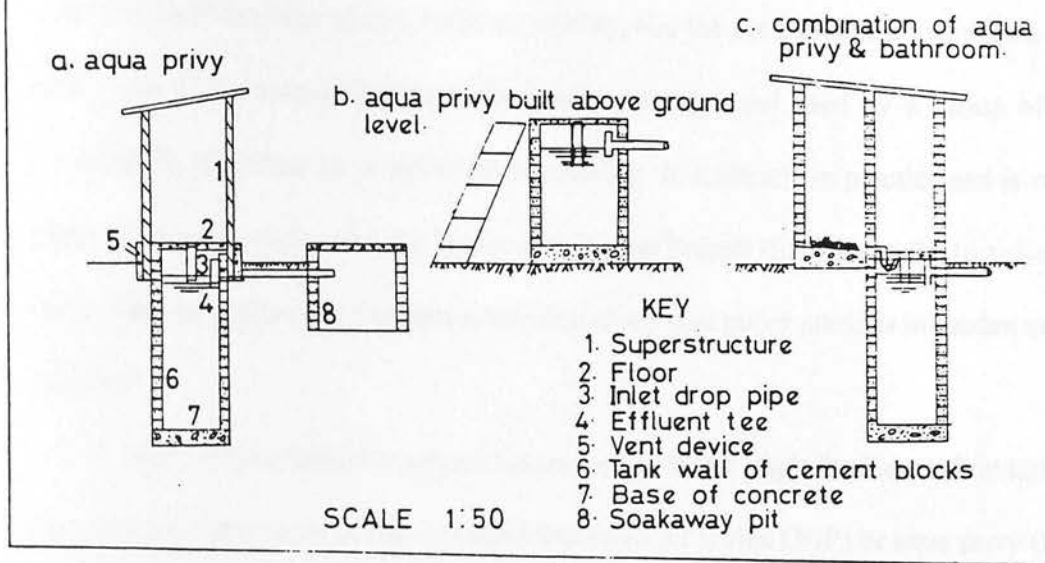


Fig. 31: (a) The Aqua Privy System

1. Digging	₦20.00
2. Cement (15 bags)	₦60.00
3. Gravel	₦ 6.00
4. Sand	₦ 8.00
5. Pipe and Fitting	₦11.00
6. Bricklayer (labour)	₦38.00
7. Planks	₦ 5.50
8. Carpenters (labour)	₦ 5.00
9. Corrugated iron sheet (11 sheets)	₦10.45
10. Nails and washers	₦ 3.50
11. Solignum	₦ 1.50
Total	₦168.95

Note: It will be observed that if the aqua privy is part of the house, as a water closet system is in a modern house, the total cost of the above will be ₦143. There would be no need for the last five items.

Note: The cost of constructing either of the two types of toilet in 1996 is 400 times the costs presented by Oluwande

(b) Cost of an aqua privy (one family type, 1974).

(i) Water closet flushing tank and seat	₦38.00
(ii) Three asbestos everite pipes	₦24.00
(iii) Asbestos everite fittings	₦13.00
(iv) Pipe fitting	₦25.00
(v) Plumber's labour	₦12.00
(vi) Digging of septic tank and soakaway	₦37.50
(vii) Bricklayers' labour	₦37.50
(viii) Cement	₦30.00
(ix) Sand and gravel	₦15.00
Total	₦231.50

The above figures were as of November 1974 at Ibadan. They vary widely from time to time and from one locality to another.

(c) Cost of the septic tank system

Source: Oluwande, P.A., 1978, Cheap Sewage Disposal in Developing Countries, pp. & 45.

maintenance of the water closet, water availability, and the need to locate away from existing wells call for communal toilets to be jointly provided and used by a group of related compounds. This has the prospect for succeeding. It is already in practice and is currently being further explored under the Sustainable Ibadan Project (SIP) in Ibadan to solve human waste disposal problems in the inner residential areas and major markets in Ibadan under the project.¹³

New compounds and courtyard houses, especially for single families and rentals should have either a water closet or the ventilated improved pit latrine (VIP) or aqua privy (fig. 31). The aqua privy is found to be a very cheap system yet very hygienic and suitable in places where there is no piped-water. Compound residents would need the technical assistance of the local government functionaries in the choice of appropriate location, technology, and supervision of actual construction. The environmental health workers would need to monitor the amount of care being given to the toilets.

The VIP, according to Peter Morgan consists of a lined pit, a concrete slab with a squat hole covering the pit, a roofed shelter and a ventilation pipe covered with a fly screen¹⁴ (fig. 33). Morgan notes further that each VIP requires between three and five 50 kg bags of cement (1,200.00 and 2,000.00 naira) and costs an average of US\$60 (4,800.00 naira), and "although they last for more than 10 years, they are beyond the means of most rural communities." ¹⁵ Morgan informs us of the Mvuramanzi Trust in Zimbabwe which has experimented with very low adaptations of the VIP using lightweight shelters made of reeds or grass, or poles and mud. Only the slab with a squatting hole and vent hole is made of concrete; all together, only one bag of cement is used. The vent pipe is also made of reed and wrapped round with discarded plastic bags. This type of VIP latrine is adaptable for use in Iseyin because of its use of local materials including the fired-brick used to line the pit. The ones to be built for groups of compounds will even be lower in cost because of the use of

System	Input Required		Networks Required		Equipment Required		Criteria Satisfied					
	Energy	Water	Roads	Pipes	Vehicles	Sludge Pumps	Ecological Criteria	Health Criteria	Nuisance Criteria	Cultural Criteria	Operational Criteria	Cost Criteria
REMOVAL												
Bucket Systems												
(a) bucket latrine	-	-	+	-	+	-	+	-	-		+	-
(b) freeze toilet	+	-	-	-	-	-	+	+	+		-	-
(c) packing toilet	+	-	-	-	-	-	+	+	+		-	-
(d) privy vault/ vacuum tank	-	-	+	+	+	+	+	+	-		+	-
(e) chemical toilet	-	-	+	-	+	-	-	-	-		-	-
Pipe Systems												
Water-borne vacuum	-	+	-	+	-	-	+	+	+		+	-
REMOVAL/INFILTRATION												
Aqua privy	+	+	-	+	-	-	+	+	+	-	-	-
Septic tank	-	+	-	+	+	+	-	+	+		+	-
INFILTRATION/DESTRUCTION												
Pit latrine	-	-	-	-	-	-	-	+	+	+	+	+
DESTRUCTION												
Incineration	+	-	-	-	-	-	+	+	-		-	-
Biological decomposition												
(a) algae tank	-	+	-	-	-	-	+	+	+		+	-
(b) multrum tank	-	-	-	-	-	-	+	+	+		+	-
(c) mulbank	+	-	-	-	-	-	+	+	+	+	+	-
(d) saniterm	+	-	-	-	-	-	+	+	+	+	-	-

Fig. 32: Comparative evaluation for non-network sewage disposal methods (after Winblad, 1972).

Source: Oluwande, P. A., 1978, Cheap Sewage Disposal in Developing Countries, p. 9.

direct labour/free services.¹⁶

Another type of latrine which has been adopted in Hermosa Provincia in El-Salvador is the Letrina Abonera Seca Familiar (LAST) developed by CEMAT in Guatemala and promoted throughout Central America by UNICEF.¹⁷ The LAST, according to Winblad, is a dry-box latrine (fig. 34) which is usually built above ground; its receptacle consists of two vaults on top of which is a movable seat with a urine collector.

After using the latrine the user sprinkles ashes, soil or a soil/lime mixture, or even saw dust over the faeces. Every week the content of the vault is stirred and more ashes added. This latrine costs between US\$60-80 to construct, according to Winblad.¹⁸ The dry-box latrine may not work in Iseyin area because of its fundamental requirement of stirring the faeces weekly with a stick. The Yoruba, as earlier stated, are very sensitive to sitting near or looking at faeces. In addition, there is a growing population of Muslims whose religion demands that they clean their anuses each time they urinate and or pass excreta. The dry-box latrine is not designed to receive liquid.

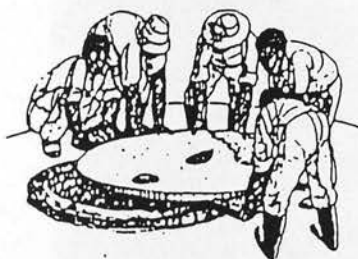
6.3.2.3 *Bathroom*

Hamdi in his study of public housing initiatives in Iraq relates this experience:

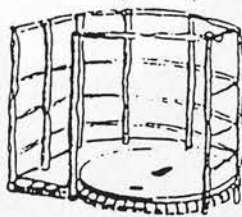
If one were to compare ...the proposals submitted by one European firm, with fairly lavish provisions for bath and sanitary facilities, with the personal hygiene habits of the people for whom they were intended, it would not be difficult to establish their inappropriateness...In a number of cases, families had removed shower units in favour of the more traditional tap and bowl method, a custom still practiced even by the wealthy.¹⁹

In many homes that are installed with showers and baths in Nigeria, the showers are idle as there is no water running through them. In most hotels that the author ever visited in

Stages in construction of a low-cost VIP



1. Adding a concrete slab to the top of a brick-lined pit



2. Making a lightweight structure



3. Adding a roof of grass



4. Completed VIP with a locally-made vent pipe

Fig. 33: Low-cost VIP toilet being adopted in Zimbabwe.
Source: Morgan, Peter, 1994, "Simpler, Cheaper VIP Latrines." *Dialogue on Diarrhoea*, 57, p. 4.

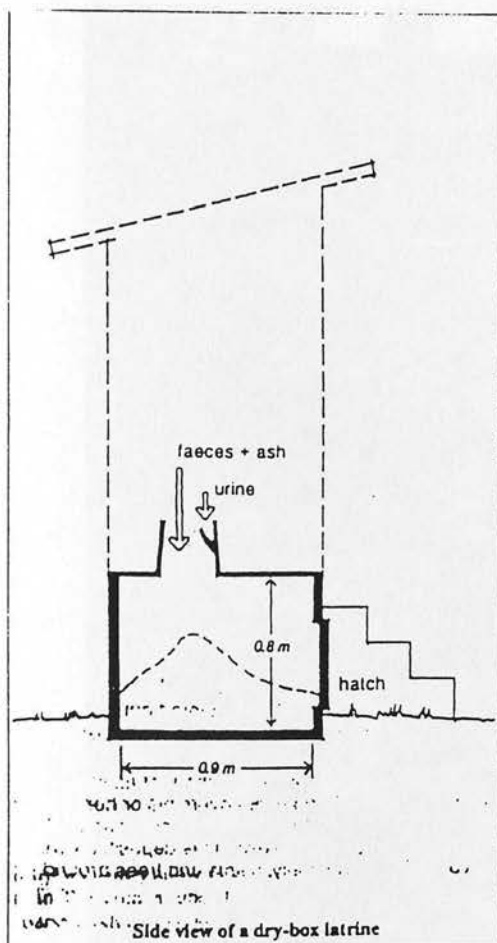


Fig. 34: Dry-box latrine developed in Guatemala. UNICEF has promoted its use in Central America.

Source: Winblad, Uno, 1994, *Urban Alternatives: the Dry-box*, p. 6.

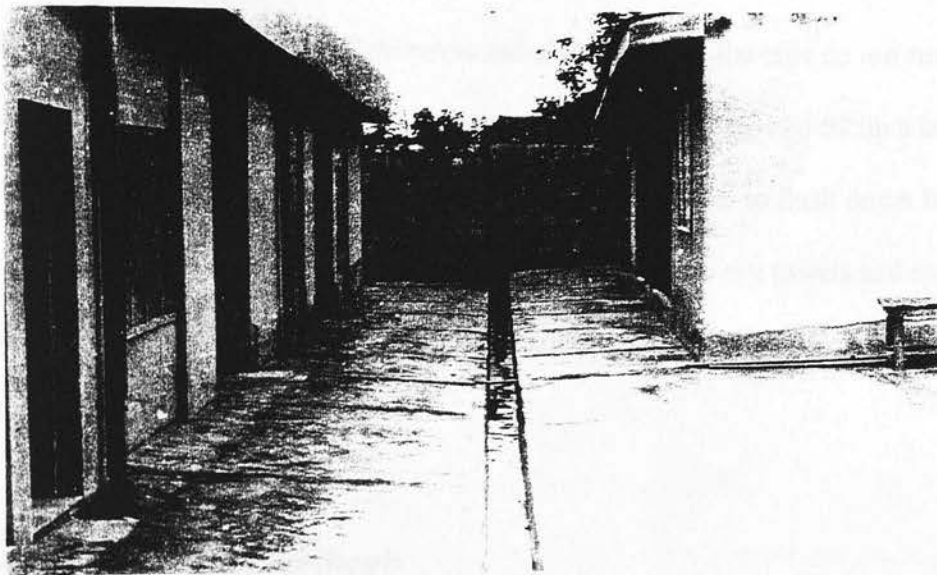


Plate 37: A modern courtyard house for Alhaj Yusuff at Malete area, off Peller Road, Kos2, Ward 4, Iseyin. The wall of the compound is constructed of cement blocks. Every part of the buildings including the boys' quarter to the right, and the entire floor area are plastered.



Plate 38: One of the three water closet toilets inside the house.

Oyo, Iseyin, Saki, Kisi Igboho, Ogbomoso and also in Ibadan, the taps do not run. One has to use the plastic bowl to pour water on one's body when bathing, and fill up a bucket with water from a plastic pot to be poured into the water closet seat to flush down faeces after attending to the call of nature. The shower pipes are best used to dry towels and sponges; yet it costs a minimum of 35,000.00 naira (700 pounds) to install a shower and the hot water tank.

6.3.2.4 *Water Supply*

Tap water is a very scarce "commodity" in all settlements in Nigeria and in places such as Lagos, Ibadan, Kano, Abuja, and Abeokuta where tap water may be available, only the Government Reservation Areas enjoy uninterrupted supply. Most members of the public buy their water from water tankers/vendors. Almost every new house being built currently in towns and cities in Oyo State has a well constructed; in many instances the well is built before actual construction work starts so that there will be water for use during construction.

The traditional wells have been and will remain the only likely reliable source of water for people in the study community into the 21st century. The suggestion here is that town planning and housing standards should allow for standard wells, adequately protected, to be provided in all new and old houses in Nigeria. However, every house should be capable of being connected to the water mains where and when available and the cost can be afforded by the house owners. As shown in Chapter Five, 1.8% of the compounds in Iseyin have in-house tap water connection and 11.1% have access to the communal stand-pipe. Tap water can be connected to the compounds easily but the residents may only be responsive to it when it is certain that water supply will be regular and the rates affordable.

Table 33 in this chapter presents some of the water projects undertaken by the Isalu

Community in Iseyin to alleviate the water problems usually faced by the residents especially in the dry season. There are two existing waterworks (Ajumoda, and Atori) in Iseyin as stated earlier in this thesis. But because the supply of water from the waterworks has not been regular, the Isalu community decided to provide communal deep wells for its members. Wahab²⁰ informs us that the first ten deep wells constructed are evenly distributed within the whole of Isalu community. One each is located at Isoko, Oke Adeta, Irawote, Ojudo Ogunbado, Ojude Akala/Otugbede, Idi Iyalode, Ojude Awe, Ojude Afuku, Ojude Gbodo and Ojude Aworan. He observes further that the wells have improved the quality of life of members of the community, and have also alleviated the problems that women and children usually face especially during the dry season when many of the wells and most streams dry up.²¹

The efforts of the Sustainable Ibadan Project ²² to assist the Odo-Akeu Community in Ibadan in order to improve the quality and efficiency of the Odo-Akeu natural spring which has been the source of water to the community for over 50 years is noteworthy (fig. 35). The community initiated the improvement project which was to cost 650,00.00 naira and raised 50,000.00 naira from among its members. The Ibadan Northeast Local Government, in whose area the project is situated, contributed 100,000.00 naira while UNICEF provided the remaining 350,000.00 naira. The project was launched in October 1996.

The Federal Government of Nigeria started the construction of the Ikere Gorge Dam (about 35km from Iseyin township) through the Ogun-Osun River Basin Development Authority in 1982. For reasons not well known to the author, the dam has yet to be completed. However, the dam will have the capacity to supply drinking and irrigation water to Iseyin, Kajola, and Oyo local government areas. When this dam is finally commissioned in 1999, as the author was informed by one of the supervisors of the project, there will be more than enough water for domestic and other uses in the entire town. The provision, use and

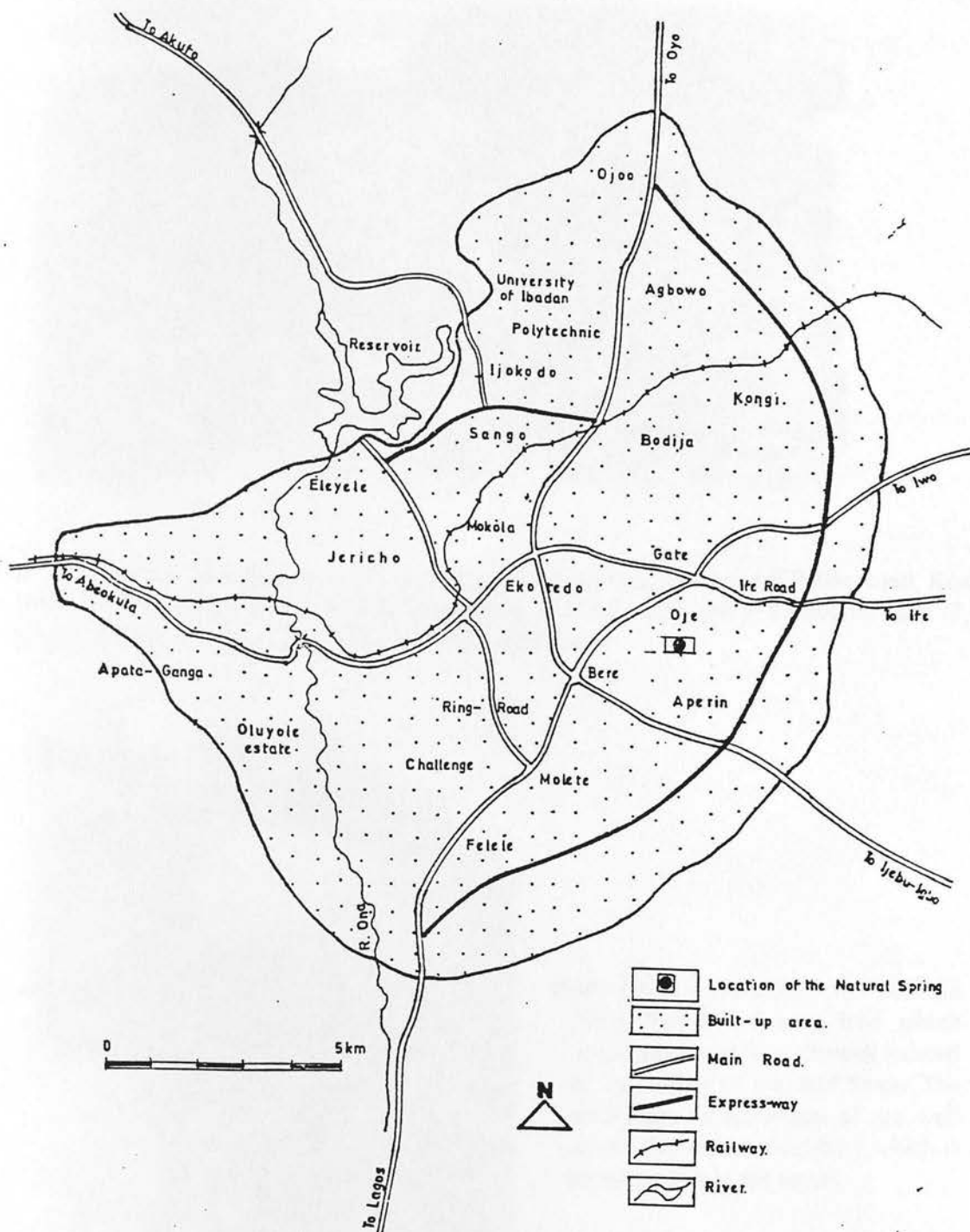


Fig. 35: Map of Ibadan showing the location of Odo-Akeu Natural Spring which is being upgraded under the Sustainable Ibadan Project (SIP) jointly by the Odo-Akeu Community, the Ibadan Northeast Local Government, and the UNICEF.

Source: Sustainable Ibadan Project Secretariat, Ibadan, 1996.

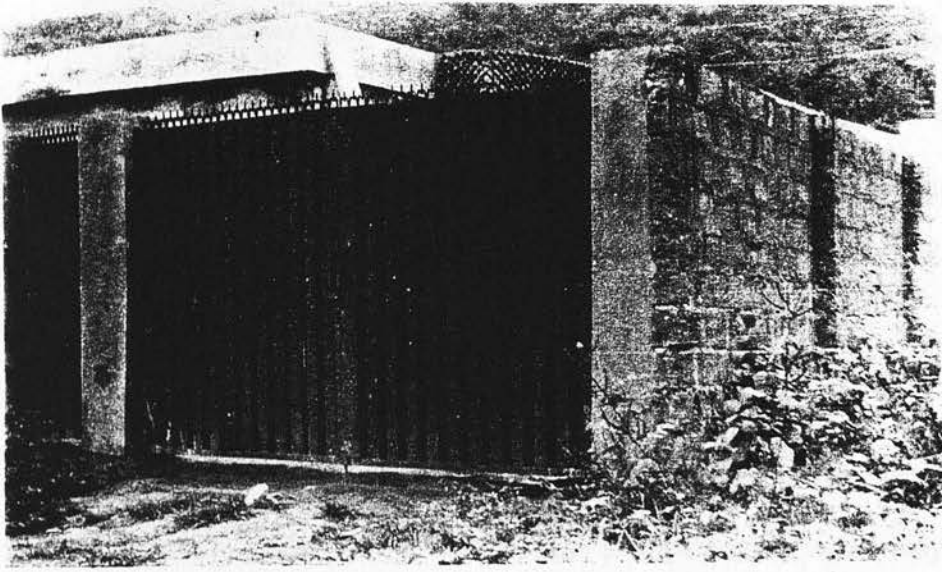


Plate 39: The entrance gate to Alhaj Yusuff's modern courtyard house, off Peller Road, Koso 2, Ward 4. The cost of the gate and the cement block fence wall is put at 85,000.00 naira (7,480 pounds). This is enough to build a two-room mud house.

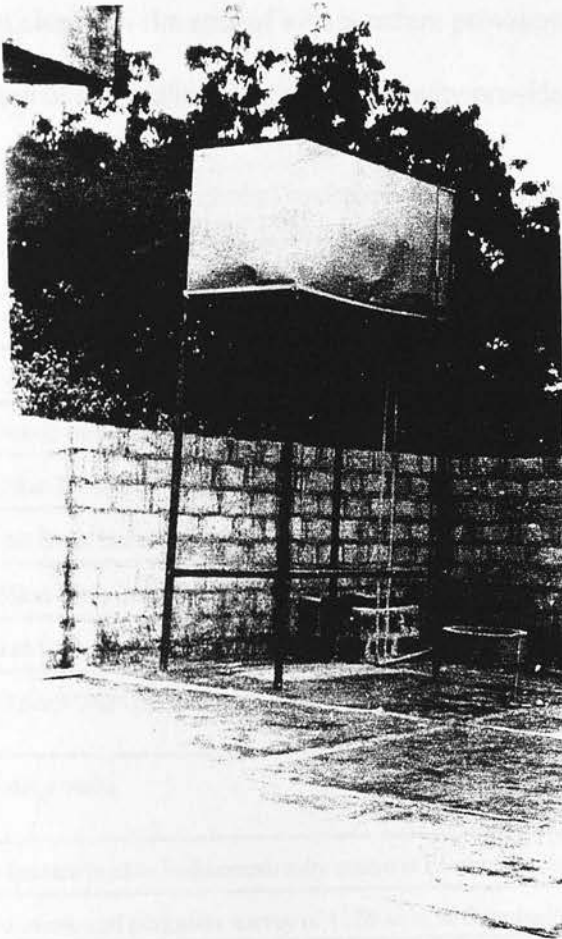


Plate 40: An overhead water tank (in Alhaj Yusuff's house) into which water is pumped from the well located at the corner of the wall fence. The usefulness or efficiency of the well would depend on electricity which is never regular in the town.

maintenance of water closet toilets will then become easier; the aqua privies earlier suggested for adoption can then be converted to regular water system toilets. This will enhance the quality of sanitation in most compounds.

6.3.3 Infrastructure Provision and Sustenance

Some of the respondents argued for the provision of roads and drainage to serve every compound. While vehicular roads are desirable, their provision has to be carefully handled so as not to cause unhealthy disruption of the socio-cultural and economic lives of the residents. The community studied has a record for community efforts in infrastructure provision especially access roads, bridges, and community wells. The Isalu community in Iseyin stands out clearly in the area of infrastructure provision since the 1940s. Table 33 below contains some of the facilities that the community provided over time.

Table 35: List of Community Development Projects Undertaken by the Isalu Community, Iseyin Between 1940 and 1993.

Project	Year	Cost
35km Bode Isalu-Ikere road	1940s	Direct labour
4.4km Olobo-Alayin road	1954	Direct labour
Owode market at Ikere	1954/55	Not available
1½km Ita Molosin-Isoko-Oluwole road	1967	Direct labour
1km Bode Isalu-Oke Igere-Oke Alafia road	1970	Direct labour
1½km Bode Isalu-Our Lady Hospital-Saki road	1972	Direct labour
1km Bode Isalu-Olokooyo-Itan road including 1 bridge and 2 culverts	Not available	Not available
10 deep wells (already commissioned)	1988/89	30,000.00 naira plus free service
5 deep wells	1992/93	20,000.00 naira plus free service
1 hectare land to build community centre at Eleera area, Isalu	1993	25,000.00 naira
Purchase and perimeter survey of 1128 sq m at Ogunbado area, Isalu	1993	5,000.00 naira

Source: Wahab, Bolanle W., (1996a), op. cit., p. 63.

The Isalu Community Development Union (ICDU) is the brain behind the mobilization of the development projects listed above. The ICDU has members who belong to various professions including town planning, architecture, pharmacy, medicine, law, building, electrical and mechanical engineering, environmental health, carpentry and auto mechanics. Apart from cash contributions, some members contribute in kind, especially their expertise, towards group projects. Member bricklayers and private contractors supervised the construction of the deep wells. The member town planner assisted in the location of the sites of the wells and the acquisition of the 1.0-hectare land and its block plan for a community centre. Wahab informs us that all the roads opened up and culverts built were mostly through direct labour. Compound Heads would lead their members (which included males and females, children and adults) to construction sites equipped with their hoes, cutlasses, axes, and calabashes. Also the maintenance of the roads is carried out through the same process.²³ At the time of survey the author observes that the communal approach to road maintenance by members of the community still goes on.

The above establishes the fact that indigenous practices live on in the society, even beyond the level of the compound, and can still be exploited for the creation and maintenance of basic infrastructure especially access roads, culverts, drainage channels, street lights, communal toilets, and organized refuse dumps. The community may not be able to provide tarred roads but can always provide gravel or laterite roads which the local government can tar/surface in future as is the case with those roads opened up by the Isalu community.²⁴

6.3.4 Maintaining the Remaining Compounds

One of the advantages of the traditional compound as identified by 14.6% of the

members of the public interviewed (see tables 5 and 6 in Chapter Four) is that it is simple to build and maintain. On the disadvantages of the compound, only 2.3% of the respondents stated that the compound required frequent maintenance (see table 7, Chapter Four). As stated in chapter four, 82.9% of the respondents said that every member of the compound population is involved in the maintenance of their compounds and only 26.3% felt that the level of maintenance was not adequate. However, things are changing in regard to the ease with which maintenance works used to be organized. The Compound Heads noted certain barriers currently inhibiting maintenance works. The greatest barrier is poverty and low earnings of members and this represents 45.1% of the responses. Others are the non-cooperation of some members (15.9%); current high cost of building materials (9.8%); some members now live in their own separate buildings away from the compounds (7.3%); large population of compound (7.3%); and the fact that many members work in distant places (3.7%). 10.9% claimed that there was no barrier. The Compound Heads were asked to identify what they considered a solution to the maintenance problems and their suggestions are presented in table 34 below.

Table 36: Solutions To Maintenance Problems as Identified by Compound Heads in Iseyin.

Suggested Solution	Frequency	Percent
More financial contributions from members	20	25.6
Government to stabilize prices of materials	16	20.5
Regular family meetings	15	19.2
Improvement in the Nation's economy	13	16.7
Prayers	8	10.3
Members to show more interest	6	7.7
Total	78	100.0

Source: Author's Field Survey, 1996

From the discussions held with compound residents and members of the public, it is obvious that the poor state of Nigeria's economy is a great hindrance not only towards the regular maintenance of existing compounds but also in the construction of new ones. The high rate of inflation in the country has affected the prices of building materials especially the manufactured ones. In 1974 a bag of cement cost only four naira; the same bag of cement cost 400 naira in June 1996 which is one hundred times the price of 22 years ago. It then cost less than one naira to buy a sheet of corrugated zinc to replace a leaking part of a roof; the same sheet costs a minimum of 80 naira as at June 1996. In all towns and cities in Nigeria at present, landlords find it increasingly difficult to maintain their houses and, in many instances, the residents have had to effect repairs to achieve the minimum degree of comfort. This is another reason why it is considered desirable that the traditional compound be further encouraged within the society.

Compound residents would need to pool more resources together to maintain their compounds (see table 34). However, the Nigerian government has to step in to bring the rate of inflation down in order that the low-income people are able to afford some of the basic materials required for the improvement of their compounds especially cement to smooth their walls, corrugated iron sheets to repair leaking roofs, electrical materials to instal electricity into those compounds currently without a supply. If construction materials were highly affordable the problems of compound maintenance would have been solved.

6.3.5 Managing the Environment of the Compounds

The current method of waste disposal through open dumping and burning is not the best because of its undesirable environmental impacts including the creation of breeding grounds for flies, mosquitoes, and rodents; occasional fire outbreak; odour emission; and

pollution of air, water and land. Incineration appears to be an affordable option for use by the compound residents as it enables refuse to burn by combustion thereby reducing the volume of the waste to ashes that are odourless and biologically sterile and which can be emptied on the fields. The issue of air pollution from the burning of refuse in incinerators is recognized but their use is meant to serve as a temporary measure pending the proper organization of refuse collection by the local government. In addition, the composition of waste in the area is more of leaves, vegetable matters and paper with very small amounts of plastics.

The best alternative perhaps, would be for the Iseyin local government to ensure the regular collection of household wastes for disposal at the central landfill. One problem here is that 65.8% of the compounds are not accessible by roads and this may hamper the refuse vans from reaching all the compounds. A solution is for the compound residents to know when a refuse van is due to collect refuse in their neighbourhood so the residents can carry their refuse to the van wherever it is parked. A second problem with this method is that the local government may run out of landfills very fast if all wastes generated are taken to the single existing landfill. One solution is for the local government to initiate a waste recycling programme whereby organic wastes are treated through composting to generate biogas and fertilizer which could be used for domestic cooking and as manure on farms respectively.

The author observes that waste recycling method is already on trial in Ilesa and Iree in Osun State and Moniya in Oyo State. The Sustainable Ibadan Project (SIP) is also building a compost plant at Bodija Market in Ibadan in collaboration with the Bodija Market community as a demonstration project under its waste management strategy which is to be replicated in other parts of the Ibadan metropolis. Bodija Market, with a population of 32,000 and its adjoining residential area of 43,000 people, generates a total of 32.2 tons of fresh solid waste per day made up of vegetable wastes (11.5 tons), cow wastes (16.69 tons), bones (1.89 tons), goat/sheep wastes (0.43 tons), saw dust/wood wastes (1.68 tons) (Sustainable Ibadan

Project 1996b:10). The compost plant is to process a total of 30 tons (93%) of the wastes per day while the remaining 7% is to be conveyed to landfills. The domestic gas and fertilizer to be produced are to be sold to members of the public, with the money generated used to maintain the project under the management of the Bodija community with assistance from the Technical Support Unit of the SIP.

6.3.5.1 *Environmental Education*

Environmental and health education need to be vigorously pursued within the community by the local government through health workers. "Communities need to be educated in order to understand the association between an unsanitary environment and unhygienic habits and diseases." ²⁵ Thomas Arcury identifies three major reasons why environmental education is important: "first, an environmentally knowledgeable public is necessary to ensure environmental justice...second, a public that is knowledgeable about the environment will support sound environmental policy...finally, sound environmental knowledge is a prerequisite for environmental health." ²⁶ The Yoruba, as discovered out in the study area, have a negative attitude towards stench or smells (*oorun*) and dirty things (*idoti*). Some of the respondents told the survey team that they did not feel comfortable attending to the call of nature within the compound. "In Uganda in the late 1940s... people were afraid to use latrines because their fixed locations would provide sorcerers with easy access to the excreta for hostile purposes, and because the feces of another in contact with one's own could bring about contamination." ²⁷

The ongoing efforts of the Sustainable Ibadan Project (SIP) on grassroots environmental planning and management is relevant here. Since the beginning of 1995 the SIP has vigorously pursued community environmental awareness programmes through

sensitization of every sector of the community in Ibadanland on the types and magnitude of environmental problems within the communities. Stakeholders have been thoroughly mobilized through formal and informal (traditional) communication methods including public meetings at different locations on any day including Sunday mornings.²⁸ Between October 23 to 27, 1995, the SIP organized a week-long City Consultation meeting at the Oyo State House of Assembly Complex, Oyo State Government Secretariat, Ibadan. The City Consultation recorded an average of 360 people per day which was considered the highest out of the City Consultations held by the twelve Global Sustainable Cities Projects (see fig. 36). Following from this was the setting up of Working Groups (WGs) to tackle specific environmental problems identified by communities in any part of Ibadan. The composition of each WG is multi-disciplinary, inter-sectoral and inter-organizational; it includes community leaders, professionals, academics, male and females, government representatives, and, at times, representatives of multilateral donor agencies such as UNICEF, WHO, and UNDP. This strategy is proving to have potential for a lasting success and is capable of replication and adoption in other communities in Yorubaland. The researcher is deeply involved in the Sustainable Ibadan Project and will be able to champion the introduction of the community environmental planning and management process in Iseyin as a means of advancing environmental/health education.

6.3.6 Adoption of Modified Compound Design

There is a great need to make future houses enviro-culturally responsive by creating what Rapoport calls "culture-specific design"²⁹-- design which supports the specific cultural characteristics of the users. There should be vigorous re-creation and regeneration of the Yoruba compound tradition in new housing developments, whether those of corporations or

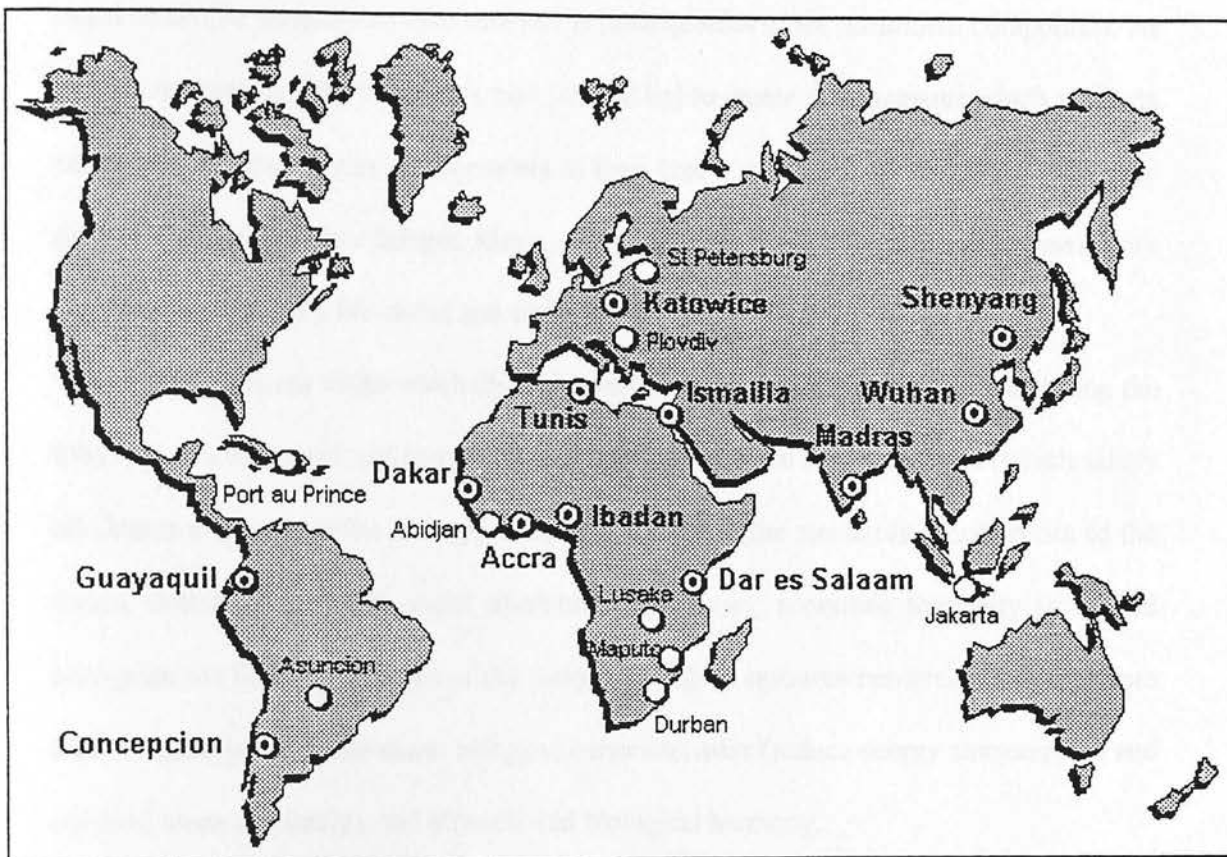


Fig. 36: The 12 Global Demonstration Cities of the United Nations' World Bank/UNDP funded Sustainable Cities Programme. The Sustainable Ibadan Project (SIP) is one of the twelve demonstration projects.

Source: United Nations Centre for Human Settlements (HABITAT), 1995, Press Release No. HAB/95/15, p. 3

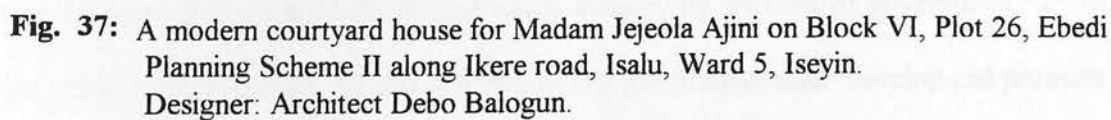
government, or of private individuals with innovative improvements (see fig. 37).

Lu and Feng³⁰ inform us that real estate developers are building new luxury versions of courtyard houses for both newly-rich native Chinese and overseas Chinese businessmen and that this development has promoted the value of the courtyard house in Beijing. Architects should therefore show great commitment by encouraging clients to construct the house type based on simple designs that take care of the inadequacies of the traditional compounds. As Rapoport observes, "the designer's task [should be] to create environments which will help people to construct those environments in their heads which are appropriate, which they desire, which match their images, ideals, and cognitive styles. Only such environments are supportive of people's life-styles and activities." ³¹

The standards within which the designs will evolve should be capable of satisfying the following conditions: cultural compatibility or conformity; social responsiveness (which satisfy all classes of people in the society); temporal relevance (the standards should relate to the needs, desires, tastes, and social situation of the time); economic feasibility (it should recognize the financial strength of the people as well as resource constraints); appropriate local technology for effectiveness; energy-use characteristics (reduce energy consumption and use land more efficiently), and physical and biological harmony.

Nigerian architects need to take interest in the study and regeneration of the traditional architecture with appropriate modifications/improvements. Nigerian architects, as Carroll observes, have not made any close study of the traditional architecture and none of them has any practical experience of adapting it to the needs of modern Nigerian society.³²

Tradition-based designs that will translate Yoruba cultural heritage into appropriate, environmentally-responsive, and sustainable architectural forms in the context of changing socio-economic and technological circumstances should be sought and produced. There is need for a more collaborative relationship between prospective house-owners and the



professionals. The society needs more pragmatic and less egotistical architects.

6.3.6.1 *Putting users in mind*

Any form of intervention, including designs, should accommodate diverse interests and choices of people. While some people want unlimited privacy (expressed in isolationism or individualism), others need elaborate social interaction (expressed through crowding or collective social groupings). Each of these categories of people should be allowed choice, with great awareness, by architects and planners and then helped to adapt to the outcome of their choices. A designer should understand that what is being designed "will be used by people only if it is honestly conceived for their use, only if they are comfortable using it, and only if it is practicable for them to use." ³³

6.3.7 *Prototype Modified Compound For Demonstration*

In table 32 the need for prototype-modified compounds tops the list of suggested measures for the revival of the compound as offered by members of the public. Government agencies, including the Federal Housing Authority, the various States Housing Corporations, Building Societies, and Local Government should allow their various low-cost housing schemes to take the form of the compounds especially by utilizing its concept and principles with necessary modifications. If the government low-cost housing schemes will be indeed low-cost, they must utilize the traditional housing form and principles.

Objective no. 1 of the current National Housing Policy for Nigeria is to "encourage and promote active participation in housing delivery by all tiers of government." ³⁴ In pursuance of this objective, the policy provides that government shall "develop and promote

tested prototype building plans which reflect cultural and regional peculiarities and can be purchased at nominal cost." ³⁵ This provision is laudable but its success will depend on how the implementers of the policy are able to effectively translate the contents. Government housing agencies have been known for their preference for imported building materials even though "massive importation of building materials" was recognized by the housing policy (see page 32 of the policy) as one of the major causes of high cost of building in Nigeria.

The design of any prototype house to be handed out to the public should conform strictly with the provisions in the housing policy document, that is, it should be a "simple, imaginative and functional design," and should meet "realistic specifications and space standards to facilitate cost reduction, affordability and acceptability." ³⁶ In view of the fact that many people in the community studied usually patronize the draughtspersons whose services are considered affordable compared to those of architects, the plans to be prepared for intending developers should meet the above provision. The designs should emphasize the use of local building materials and also incorporate what Hamdi calls "user control -- an ideal demanded by people seeking appropriate housing, and one which has been well tested and seen to work." ³⁷

6.3.7.1 Experimentation

One glaring barrier regarding the prototype option is the anticipated difficulty in finding a government agency to finance the prototype. Non-Governmental Organizations, Community-Based Organizations, and well-to-do individuals in the society are therefore the target for the required funding of labour, materials, and other related costs. The author intends to be actively involved by contributing expertise, time and personal resources. A piece of land bought by the author in Iseyin is being offered for the prototype project. The Sevite Klub,

Iseyin, of which this author is a member has a 20-acre site along Okeho road in Iseyin part of which members of the Klub have agreed to use to experiment with the modified-compound plan. In addition, the Homeowners Cooperative Society which has its base at Ibadan is a willing organization for the experimentation of the prototype compound being put forward. The society has put aside two plots of land from its 45-plot estate situated in Apete area near the campus of The Polytechnic, Ibadan. This strategy will promote the participation of homeowners in the building process of their residential areas, as well as their participation in managing and financing³⁸ some of the planning issues and services that may involve and affect their residential neighbourhood.

The overall layout of groups of compounds calls for well-integrated spaces. Spaces which achieve a high standard of environmental quality; spaces which offer human protection against traffic and accidents, crime and violence, unpleasant climates and unpleasant sensory experiences -- noise, stench, smog, dust, mud and blinding. The compound environments require spaces where social relationships can be established; where human beings can isolate and/or congregate; spaces that are meaningful, functional, intimate, and harmonious; spaces that have strong character and dignity.

6.3.7.2 *Unfinished Architecture*

The prototype compounds must be capable of subtle modifications by the occupants. A person should be able to personalize certain elements of the building such as decoration, the type of window shutter or even ceiling materials. Rigid design and rigid products should be avoided. Any prototype to be acceptable in the society under study must be seen as "people's architecture" which is what the traditional compound is. People's architecture allows for an instalmental construction or incremental up-grading through gradual additions

(to meet changing family needs and improved socio-economic status) as and when there is the means. This is what Rapoport³⁹ and Robert Sommer⁴⁰ call "open-ended design" or "loose fit" architecture -- architecture that is "less over-organized."

6.2.8 The Use of Local Building Materials

Ikechukwu Onyegiri defines local building materials as "not only indigenous building materials but also building materials whose major raw materials and machines input are available locally... materials...that can be easily procured, prepared and used by local dwellers." ⁴¹ As noted in Chapter Five, section 5.2.2 in this thesis, materials for the roof frame of the compounds have remained largely of the country wood including kasia, Casia siamea (*kasia*); teak, Tectona grandis (*gedu*); Terminalia superba (*afara*); Triplochiton scleroxylon (*arere*); Milicia excelsa (*iroko*); mahogany, Khaya senegalensis (*ogano*); oil palm wood, Elaeis guineensis (*ope*), and coconut, Cocos nucifera, (*agbon*). In Iseyin, palm wood, especially those of Elaeis guineensis (oil palm, *ope*) and Cocos nucifera (coconut palm, *agbon*) are widely used, in their full or split form, as roof members (rafters, purlins, struts, noggings, and tie beams).

As open cooking at the inner corridor or passages of the compounds is to be discouraged for health reasons, the above woods would require some seasoning if they are to last long. Palm wood, for example, is highly susceptible to fungi when damp. Other woods are also prone to attack by termites, fungi, and rot. Treatment for these woods have been sought by people in Iseyin through the use of insecticides and fungicides including "gamalin 20". However, the cost of the chemical is so high (3,400.00 naira per gallon) that only the very few affluent members of the society can afford to use it.

Another problem with the increased use of the country woods is that of deforestation;

without a corresponding replanting, the wood becomes scarcer and consequently their prices are rising daily. Large-scale planting of the local woods should be encouraged by the government as well as private organizations. The Nigerian Tobacco Company is doing a good job in this regard. It planted thousands of acres of fuel wood and teak trees in plantations in and around Iseyin. Palm wood plantations should also be encouraged in the study area as already undertaken in many of the states in the south-eastern part of Nigeria.

The cheapest local material for roofing is the corrugated zinc roofing sheets which are largely manufactured in Nigeria. In Iseyin the study notes that all the compounds have zinc roof coverings. People no longer use thatch or grasses to roof their buildings. Zinc will continue to be the affordable local roofing material. However, in order to enable many developers to roof their buildings (and many buildings are found to have been abandoned at the roofing stage) Nigerian government will be required to facilitate a reduction in the prices of corrugated iron sheets.

The Federal Government of Nigeria has noted the effects of imported building materials on the overall building construction costs in the country. The current housing policy has, therefore, provided for; the development of appropriate technology to facilitate production and use of local building materials; the establishment of cottage and small-scale industries producing building materials and components from local sources in order to ensure availability of cheap building materials for housing development.⁴² The required level of commitment to the implementation of the policy has been lacking on the part of federal, states and local governments. It is six years now that the policy came into effect; unfortunately, rather than for building materials to be available at affordable prices, prices have continued to be out of reach of average persons. Desired attention has not been paid to the development of local building material industries.

6.3.9 Application of Appropriate Technology

The technology involved in the construction of the traditional compound, as previously discussed, is simple and labour-intensive but requiring no complex geometry, with low-cost, low-energy, and low-technology benefits. Machines are not required. The local builders understand the entire process and are able to handle repair and maintenance works readily and easily. The costs and maintenance of their buildings are related to the economic means of wage-earners and the self-employed. Modern technology is the direct opposite of the "people's technology." A large proportion of the study community may not be able to afford the high expenses involved in the adoption of the latest technology in house construction: the use of plastics, metal sheets, heavy-duty concrete, and glass. The community should, therefore, be encouraged to use the technology with which its members are familiar while their artisans and craftsmen learn gradually the incorporation of relevant aspects of modern housing construction.

When asked how many have taken part in modern housing construction, 50% of the builders said they have. In addition, 86.7% of the builders saw the need to combine indigenous with modern knowledge in housing construction. Furthermore, 40% of the builders claimed that the integration of indigenous and modern knowledge will promote the local building industry; 40% said that it will broaden the scope of knowledge of the builders; while 20% suggested that it will reduce the cost of construction.

The table below presents the responses of the traditional builders as to the ways by which the traditional building practices can be effectively incorporated into contemporary housing construction activities. The builders recognize the need for formal/informal training which 33.3% of them feel will give them the required skill to handle basic modern

construction tools such as plumbs; another 33.3% feels the training will enable them

Table 37: Suggestions for the Integration of Traditional and Modern Construction Techniques as Identified by Traditional Builders.

Suggestion	Percent
Training and retraining programmes for builders	36.4
Encouragement from government	27.3
Interaction among traditional and modern builders	18.2
Appropriate combination of both techniques	18.2
Total	100.0

Source: Author's Field Survey, 1996

to read and interpret building plans; 27.8% hope that they will be able to read measuring tapes, squares, and scale rules; while 5.6% feel that they will be able to learn about modern leveling methods.

6.3.10 Indigenous Knowledge and Education

The values of indigenous knowledge and its significance in the built environment have been discussed extensively in Chapter Two, section 2.6 in this thesis. The importance of education in the creation of awareness of the significance of indigenous knowledge in the overall built environment can not be over-emphasized. Public education about Yoruba indigenous settlement planning and housing is very important. One way of going about this is to integrate indigenous knowledge topics into courses and curricula dealing with subjects that have direct or indirect bearing on human settlement and habitation. A cursory look through the curricula of some environmental design programmes of The Polytechnic, Ibadan, the Master of Urban and Regional Planning Programme of the University of Ibadan, and the bricklaying and blocklaying programmes of the Technical Colleges in Oyo State, Nigeria, reveals the lack of inclusion of indigenous knowledge systems, especially in the areas of

settlement planning and human habitation of the Nigerian communities.

In the syllabus prepared for both the National Technical Certificate and the Advanced National Technical Certificate in Bricklaying, Blocklaying and Concreting by the National Board for Technical Education (NBTE)⁴³ for use in all Technical Colleges, no mention is made of either mud as a building material or mud houses. Building Science II (CBC 22) only includes clay products (specifically clay bricks, clay blocks, clay roofing tiles and clay floor tiles); Introduction to Building Construction (CBC 11) includes only concrete and mortar under walls; Bricklaying (CBC 12) and Blocklaying (CBC 13) only includes mud/clay blocks. Building Drawing 1 (CTD 14) includes design of modern residential bungalows only. Also, the curriculum of the National Diploma and Higher National Diploma in Civil Engineering Technology prepared by the NBTE⁴⁴ for all the 41 Polytechnics and Colleges of Technology in Nigeria does not include anything on indigenous house types and house construction in the Country. Building Construction I (BQS 103); Building Construction II (BSQ 104); Building Construction III (BSQ 203), and Science and Properties of Materials (CEC 104) only provide for brick and block wall, cement, concrete, plastics, metals, and stones. The syllabus of the Blocklaying and Masonry Grades I, II, and III Programmes of the Ibadan Polytechnic Vocational Skill Improvement Unit does not recognize mud structures. Except for Settlement Geography (TP 112), which mentions the nature and characteristics of rural and urban settlements, the various courses for the three programmes in Urban and Regional Planning of Ibadan Polytechnic⁴⁵ have nothing on traditional settlements and their house types.

There is the need to integrate indigenous knowledge on human settlements into the educational curricula at various levels of the educational programme in Nigeria. There is as yet no discipline defined as indigenous knowledge studies; the concept being inter-disciplinary in nature and scope. Indigenous knowledge may not be made a subject; rather, the various indigenous or traditional practices that relate to the built environment should be taught to the

pupils and students in elementary and high schools in relevant subjects including science, social studies, physical and health education, religious studies, agriculture, family living, and home economics. At the tertiary level, traditional practices should feature in the following courses/subjects: architecture, urban design, human geography, sociology, housing, community and regional planning, landscape architecture, anthropology, rural development, population and urbanization, land and people of Nigeria, development control, civil engineering, environmental conservation, public health and administration, building design and construction, fine art, technology and social change, and land use and transport planning, to mention a few.

African education especially at tertiary level, should take care of African architecture...knowledge is a golden chain linking the past with the present and of course the future. African native architecture should be kept alive. The primacy of African life [through the restoration of the courtyard] should be emphasized in all architectural educational institutions.⁴⁶

Internships and Students' Industrial Work Experience Scheme (SIWES) especially for students of environmental studies in tertiary institutions in Nigeria should be designed to make students undertake practical/focused studies of traditional and contemporary practices on any aspects of human settlements and habitations.

Mythology and symbolism should be taught to town planning, architecture, urban design, landscape architecture, public health, fine art and building engineering students as this will provide the students with "a clear understanding of the links between environmental design and cultural values."⁴⁷

There is need for extensive survey and accurate documentation of the traditional compound culture in all Yoruba settlements to reveal what remains of the compounds. Apart from incorporating aspects of indigenous knowledge and practices into the content of relevant courses, students in colleges of education, polytechnics and universities should be encouraged

to undertake studies or write dissertations or theses on topics that have indigenous knowledge components, such as the traditional Yoruba settlements and housing, as being done in the Town Planning Department of The Polytechnic, Ibadan, Nigeria.⁴⁸ The compounds should be studied if only for the lessons they offer.

In addition, there could also be informal educational programmes including radio and television programmes to feature indigenous practices in human settlements and habitation as is done regularly for mathematics, science, and the English language on Radio Nigeria, Ibadan, and Radio O-Y-O, Ibadan. Public lectures, usually organized by community-based organizations, especially the Hometown Associations, in most towns in Yorubaland during their annual home-coming festivities should start focusing on the strength and usefulness of indigenous knowledge practices as a tool for solving contemporary housing, health and environmental, social and economic problems facing the communities. This will form a formidable link or bridge between the formal classroom teaching to informal community awareness programmes.

Professional bodies in Nigeria including the Nigerian Institute of Architects, the Nigerian Institute of Town Planners, the Nigerian Institute of Builders, the Nigerian Institute of Estate Surveyors and Valuers, the Council of Registered Engineers of Nigeria, and the Association of Housing Corporations of Nigeria, should be encouraged to feature indigenous knowledge issues in their regular annual meetings and conferences as a way of creating the required awareness and as a contribution towards the attainment of some of the objectives of Agenda 21 of the United Nations regarding a sustainable human environment.

There is need for rigorous and wide-spread public awareness drive about the values of Yoruba traditional architecture. The advantage of this is that the public will become more enlightened and a prospective developer will be more confident and bolder to embark on the construction of a mud compound if that is what seems affordable and achievable. Awareness

will revive and preserve the local building knowledge and when the knowledge exists it may be a bit difficult for the traditional compound to be "wiped out." The local people, especially the low-income earners (who incidentally are in the majority in the society studied), should stop being ashamed of putting up mud dwellings. They should show a high level of pride and interest in constructing compounds with local building materials, using the communal approaches but ensuring the inclusion of adequate sanitary facilities.

6.4 Suggestions for Future Research

- Detailed studies and documentation of the present status of traditional compounds in both rural and urban areas in Yorubaland in order to establish the general pattern and be able to formulate broader strategies.
- Reviving and modernising the Yoruba traditional compound in a way that will make it more efficient yet retaining its socio-cultural meaning and values.
- Government's policy regarding infrastructure provision in traditional residential quarters in various towns and cities.
- Establishing Community Environmental Planning and Management Committees (CEPMC) at both Ward and Local Government levels to dialogue with local authorities and other public agencies on matters affecting the growth and development of their areas as a means of securing greater public involvement in grassroots environmental issues.
- Financial studies and appraisals of typical layouts and permutations of housing, cost analyses of traditional and contemporary building materials, and communal financing systems for courtyard housing.

6.4.1 Endnotes

1. See Ralf Weber (1991). "The Myth of Meaningful Forms: Comparing the Forms of Indigenous and Classical Architecture." *Traditional Dwellings and Settlements Review*, 2, p.65-73. (p.71).
2. See Dmochowski, Z.R. (1990). *An Introduction to Nigerian Architecture*, Vol.1, Northern Nigeria; Vol.2, Southwest and Central Nigeria; Vol.3, Southeastern Nigeria. London: Ethnographica, p.ix.
3. See Wahab, W.B. (1984). "The Pattern of Change in the Yoruba Traditional Residential Quarters." Unpublished M.Sc. Dissertation, Heriot-Watt University, Edinburgh, p.165.
4. Fathy, Hassan (1973). *Architecture for the Poor*. Chicago: Chicago University Press, p.26.
5. See Van der Ryn, S. and P. Calthorpe (1986). *Sustainable Communities*. San Francisco: Sierra Club Books, p.122-123.
6. See Amos Rapoport (1980b). "Cross-cultural Aspects of Environmental Design." In I. Altman, A. Rapoport and J.F. Wohlwill (eds.). *Human Behaviour and Environment*, Vol.4, *Environment and Culture*. New York: Plenum Press. pp.7-46, (p.26).
7. Foddy, W.H. (1977). "The Use of Common Residential Area Open Space in Australia." *Ergonomics*, 43, pp.81-83.
8. Michelson, W. (1970). "Analytical Sampling for Design Information: A Survey of Housing Experiences." In H. Sanoff and S. Cohn (eds.), *EDRA*, 1, pp.183-197.
9. Adequate and steady supply of water to run the water closet toilet may be a big problem in the study area. Although almost every compound has a well which supplies water for domestic use, many of the wells have very low supply of water in the dry season, during which time residents restrict the use of well water to cooking, drinking, and, at times, bathing.
10. See Elmendorf, M. and P. Buckles (1980). "Sociocultural Aspects of Water Supply and Excreta Disposal." In The World Bank, *Appropriate Technology for Water Supply and Sanitation*, 5, pp.1-27, (p.26).
11. One reason most compounds do not have toilets is to prevent the pollution (direct or indirect) of wells which are usually located within the inner courtyard of every compound.
12. See Rybeznski, W., C. Polprasert and M. McGarry (1982). "Low-cost Technology

Options for Sanitation: a State-of-the-art Review and Annotated Bibliography." In The World Bank, *Appropriate Technology for Water Supply and Sanitation*, pp.11-39, (p.13).

13. The Bodija Market Area Development Association in 1996 built simple water closet toilets and refurbished old ones for use of callers at the market and residents of surrounding neighbourhoods. The Association decided to charge users two and three naira (4 and 6 pence) for the use of the toilets and showers respectively. The community took responsibility for the sanitation and management of the conveniences. It was noted that the amount of faeces usually found in drains and on the streets within the market reduced by over 50% within the first four months.
14. See Peter Morgan (1994). "Simpler, Cheaper VIP Latrines." *Dialogue on Diarrhoea*, 57, p.4.
15. Ibid.
16. UNICEF has been promoting the use of the VIP latrine in different parts of Nigeria (esp. in Southeastern part) since the 1980s as part of its Nigeria-UNICEF joint Rural Water Supply and Sanitation Programme (WATSAN). Between 1991 and 1994 the WATSAN projects provided 823 VIP latrines and 280 dug wells in 17 States in Nigeria, while in 1995 a total of 455 VIP latrines were constructed in collaboration with communities. See Federal Government of Nigeria (1996). *Federal Government of Nigeria-UNICEF Water and Environmental Sanitation Project Plan of Operations 1997-2001*, 2nd draft, February. Lagos: Federal Ministry of Water Resources and Rural Development.
17. See Uno Winblad (1994). "Urban Alternatives: the Dry-box." *Dialogue on Diarrhoea*, 57, pp.6-7 (p.6).
18. Ibid., p.7.
19. See Hamdi, N. (1982). "Participation and New Buildings." In N. Hamdi and B. Greenstreet (eds.). *Participation in Housing No.3: Two Case Studies*. Working Paper No.59. Oxford Polytechnic Department of Town Planning. pp.2-27, (p.15).
20. See Wahab, W.B. (1996a). "Community Development Association and Self-Reliance: The Case of Isalu Community Development Union, Iseyin, Nigeria." In P. Blunt and D.M. Warren (eds.), *Indigenous Organizations and Development*. London: Intermediate Technology Publications. pp.56-66.
21. Ibid., p.63.
22. The Sustainable Ibadan Project (SIP) is one of the 12 demonstration projects worldwide under the United Nations Sustainable Cities Programme. The SIP is jointly funded by the United Nations Centre for Human Settlements (UNCHS), the Oyo State Government (Nigeria) and the eleven Local Governments in Ibadan Region. The

- project took off in 1995 and it is meant to address environmental problems in Ibadan using a community-based Environmental Planning and Management approach.
23. Wahab, W.B. (1996a), op.cit., p.62.
 24. Only the Isalu-Ikere road had not been tarred at the time of survey. One relevant point is that facilities provided by the communities themselves are almost always free from controversies in terms of location. The communities should be involved in any plan to take roads through the traditional residential quarters in order to avoid those problems usually associated with inner area improvements.
 25. Egunjobi, Layi (1989). "Promotion of Rural Environmental Sanitation through Traditional Financial Intermediaries." *Health Promotion*, 3, No.4, pp.341-346. (p.345).
 26. Arcury, T. (1995). "Applied Anthropology in Environmental Education." *Practicing Anthropology*, 17, No.4, pp.3-4, (p.3).
 27. See George Gillanders (1940), quoted by M. Elmendorf and P. Buckles, op.cit., p.2.
 28. This researcher is actively involved in the Sustainable Ibadan Project and has been the leader of a team contracted to provide technical support services to the fifteen Project-specific Working Groups set up under the project since January 1996.
 29. Rapoport, A. (1987). "On the Cultural Responsiveness of Architecture." *Journal of Architectural Education*, 41, No.1, pp.10-15 (p.10).
 30. See Lu, J. and J. Feng (1996). "A Changing Tradition: Invention and Selection of Tradition in the Courtyard House of Beijing." *Traditional Dwellings and Settlements Review*, 8, No.1, p.36.
 31. Rapoport, A. (1987), op.cit., p.24.
 32. Carroll, Kevin (1992). *Architecture of Nigeria*. London: Ethnographica, p.76.
 33. Saphier, M. (1968). *Office Planning and Design*. New York: McGraw-Hill Book. p.viii.
 34. See Federal Government of Nigeria (1991). *National Housing Policy for Nigeria*. Lagos: Federal Ministry of Works and Housing. p.10.
 35. Ibid, p.33.
 36. Ibid.
 37. Hamdi, N., op.cit., p.5.

38. The traditional method of raising funds for capital projects including house construction will need to be resuscitated. Almost every member of the community belongs to one association whose members usually contribute money at fixed periods. Such funds are usually advanced to needy members with little or no interest. A member of a cooperative society is entitled to borrow twice the amount he/she so far contributed to the society and such loan is paid back at an agreed period. Many Cooperative Thrift and Credit Societies are also entitled to bulk-purchase of commodities including some building materials from government-owned companies.
39. See Rapoport, A. (1967). "Whose Meaning in Architecture?" *Interbuild / Arena*, October, pp.44-46.
40. See Sommer, R. (1966), "Alien Buildings." *Arts and Architecture*, 75, pp.18-19.
41. See Onyegiri, I. (1990). "Palm Wood: A Source of Local Building Material." In I.C. Okonkwo et al. (eds.) *Issues in National Development*. Erugu: ABIC Publishers, p.372.
42. Federal Government of Nigeria (1991), op.cit., pp.17 and 34.
43. See National Board for Technical Education (NBTE) (1987). *National Technical Certificate and Advanced National Technical Certificate Programmes: Curriculum and Modula Specification in Bricklaying, Blocklaying and Concrete Work*. Kaduna: NBTE.
44. See National Board for Technical Education (NBTE) (1989). *National Diploma and Higher National Diploma: Curriculum and Course Specification in Civil Engineering Technology*. Kaduna: NBTE.
45. See The Polytechnic Ibadan (1990). *The Syllabus of the 5-Year Programme of the Professional Diploma in Urban and Regional Planning*. Ibadan: Town Planning Department, the Polytechnic, Ibadan.
46. Ali, Z.S. (1985). "African Vernacular Architecture and Cultural Identity." *Nigeria Magazine*, 53, No.2, pp.1-5.
47. Ujam, F. and F. Stevenson (1996). "Structuring Sustainability." *Alt'ing: The Scottish Journal of Architectural Research*, March, pp.45-49, (p.49).
48. For a list of dissertations that have Indigenous Knowledge components written by the Town Planning Students of The Polytechnic, Ibadan, see Wahab, W.B. (1996b), "Indigenous Knowledge Systems and the Human Settlements: Towards Integration into Education Curriculum." In D.M. Warren, L.Egunjobi and B. Wahab (eds.), *Indigenous Knowledge in Education*. Ibadan: Indigenous Knowledge Study Group, University of Ibadan, pp.63-77 (p.73-4).

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APPENDIX 1

APPENDIX 1

(a) ...

(b) ...

(c) ...

(d) ...

(e) ...

APPENDIX 2

(a) ...

(b) ...

(c) ...

(d) ...

(e) ...

(f) ...

(g) ...

(h) ...

8.0 APPENDICES

8.0.1 ...

...

APPENDIX 3

(a) ...

APPENDIX 4

(a) ...

(b) ...

(c) ...

(d) ...

APPENDIX 5

(a) ...

(b) ...

(c) ...

APPENDIX 6

(a) ...

(b) ...

APPENDIX I

SURVEY QUESTIONNAIRE

A SURVEY OF TRADITIONAL COMPOUNDS IN ISEYIN, NIGERIA

I. GENERAL INFORMATION

- (a) Questionnaire number ____
- (b) Address/Location of interview ____
- (c) Name of compound ____
- (d) Compound identification number ____
- (e) Date of interview ____
- (f) Interview completed ____ Uncompleted ____ No response ____

II. SURVEY ZONE/WARD

- (1) Isalu
- (2) Ekunle 1
- (3) Ekunle 2
- (4) Koso 1
- (5) Koso 2
- (6) Ladogan/Oke-Eyin
- (7) Ijemba/Oke-Ola/Oke-Oja
- (8) Imale Falafia/Dunmoba/Adabo/Agbagi

PART A: To be completed by Head of Compound/Representative (elderly resident).

Section 1

1. Sex of Respondent

- (1) Male
- (2) Female

2. Age of Respondent (years)

- (1) 41 - 45
- (2) 46 - 50
- (3) 51 - 55
- (4) 56 - 60
- (5) 61 - 65
- (6) 66 - 70
- (7) 71 and above

3. Marital Status of Respondent

- (1) Single
- (4) Widowed
- (2) Married
- (5) Separated
- (3) Divorced
- (6) Others (specify)

4. Number of Children?

- (1) Male ____
- (2) Female ____

5. Religion

- | | |
|------------------|----------------------|
| (1) Islam | (4) No Religion |
| (2) Christianity | (5) Others (specify) |
| (3) Traditional | |

6. Highest Educational Status

- (1) No formal education
- (2) Arabic education
- (3) Adult education
- (4) Primary
- (5) Modern School
- (6) Secondary/Grade II Teachers/Technical College
- (7) College of Education
- (8) Polytechnic
- (9) University
- (10) Others (specify)

7. Type of Present Job

- | | |
|--------------------|------------------------------|
| (1) Farming | (16) Tieing and Dyeing |
| (2) Weaving | (17) Blacksmithing |
| (3) Lumbering | (18) Goldsmithing |
| (4) Mining | (19) Barbing/Air dressing |
| (5) Forestry | (20) Auto mechanic |
| (6) Fishing | (21) Pottery |
| (7) Livestock | (22) Civil service |
| (8) Trading | (23) Professional consultant |
| (9) Transportation | (24) Contracting |
| (10) Tailoring | (25) Alternative medicine |
| (11) Carpentry | (26) Clergy/Priest/Imam |
| (12) Bricklaying | (27) Finance institution |
| (13) Plumbing | (28) Student/apprentice |
| (14) Electrical | (29) Painting/Decoration |
| (15) Welding | |

8. Present Job Status

- (1) Fully employed
- (2) Underemployed
- (3) Unemployed
- (4) Retired
- (5) Others (specify)

9. How long have you lived in this Compound?

10. Who founded the Compound?

11. (a) When was this compound built? _____

(b) If exact date is unknown, give range of year

- | | |
|-------------------|--------------------|
| (1) 0 - 20 years | (4) 61 - 80 years |
| (2) 21 - 40 years | (5) 81 - 100 years |
| (3) 41 - 60 years | (6) Over 100 years |

12. How many rooms did the compound contain when it was built? _____
13. How many units did it contain then? _____
14. Give the number of nuclear families/households when the compound was built. _____
15. What is the present number of nuclear families/households? _____
16. What do you consider to be the gains of living in this compound?

Design & Construction

17. Who designed this compound?

- (1) The founder of the compound alone
- (2) The founder of the compound and other members of the lineage
- (3) The elderly members of the lineage alone
- (4) The elderly female members of the lineage alone
- (5) The elderly male and female
- (6) Professional builders within the lineage
- (7) Professional builders from outside the lineage
- (8) Others (specify)

18. What factors determined the design of the compound?

- | | |
|-------------------------------|-----------|
| (1) Group spirit/togetherness | |
| (2) Privacy | (5) _____ |
| (3) Security | (6) _____ |
| (4) Climate | (7) _____ |

19. What are the basic (distinct) features of any traditional compound?

20. What distinguishes traditional compounds from modern dwelling units?

21. Where were the builders of this compound from?

- (1) Within the family
- (2) Outside the family but within the neighbourhood
- (3) Within the family and from outside the family
- (4) Other parts of Iseyin
- (5) Outside Iseyin
- (6) I do not know

22. Are these people alive and still in the trade?

- (1) They are alive and still in the trade
- (2) Some of them are alive but have left the trade
- (3) They are mostly dead

- (4) I do not know
(5) Others (specify)
23. How old were you when this compound was built?
24. Did you participate in the construction of this compound?
25. If yes, what aspect of the construction did you engage in?
26. List the materials used in the construction of this compound.
27. Give the source(s) of the materials used in building this house.
(1) Within the locality
(2) From another ward/quarter (name the ward)
(3) Outside Iseyin (specify the materials) _____
(4) Imported from outside Nigeria (specify country and the materials) _____
28. If materials were obtained locally, were they available in abundance?
29. If No, which of the materials were in short supply?
30. Do you remember the methods through which the construction was financed?
(1) Sole effort of the Compound Head
(2) Joint effort of family members
(3) Family contribution plus outside support
(4) Other (specify)
31. If external support was received, state type and source.
32. Do you know of any recent construction of this type of building in Iseyin?
33. If Yes, mention the areas.
34. What do you consider to be the benefits of this traditional building over the modern ones?

Maintenance

35. Has there been any repair on this compound since it was built?
36. Whose responsibility is it to maintain the compound?
37. How often do you carry out maintenance work on the compound?
(1) Weekly
(2) Fortnightly
(3) Monthly
(4) Bi-annually
(5) Annually
(6) As occasion demands
(7) Others (specify)
(8) No maintenance
38. How is maintenance carried out?
(1) Material supply
(2) Labour supply

(3) Cash supply

(4) Others (specify)

39. Did you ever take a loan for any maintenance work on this compound?
40. If Yes, state when and the type of loan _____
41. Have you ever received external support to maintain the compound?
42. If Yes, state type and source of support.
43. What do you consider to be the barriers towards regular maintenance?
44. How can the problems be over?

Section 2: Physical Characteristics of the Compound

1. Use of Compound

- | | |
|-----------------|-------------------------|
| (1) Residential | (2) Commercial |
| (3) Industrial | (4) Educational |
| (5) Religious | (6) Mixed use (specify) |

2. Ownership of Compound

- | | |
|--------------------|----------------------|
| (1) Nuclear Family | (2) Extended Family |
| (3) Individual | (4) Others (specify) |

3. Tenorial Pattern

- (1) Owner occupier
- (2) Owner/rented
- (3) Rented
- (4) Others (specify)

4. Number of habitable rooms

5. Size of rooms

- | | |
|-------------------------------|-------------------------------|
| (1) Below 1.48 m ² | (2) 1.49 - 3.0 m ² |
| (3) 3.1 - 7.5 m ² | (4) 7.6 - 10.8 m ² |

6. Materials for Walls

- | | |
|-------------------------------|---------------------------------|
| (1) Mud (not plastered) | (2) Mud (plastered) |
| (3) Mud Bricks (plastered) | (4) Mud Bricks (unplastered) |
| (5) Cement blocks (plastered) | (6) Cement blocks (unplastered) |
| (7) Stone | (8) Others (specify) |

7. Is wall painted?

8. Material for Roof Covering
- | | |
|----------------------------|---------------------------|
| (1) Thatch | (2) Sawn wood |
| (3) Bamboo | (4) Corrugated Iron sheet |
| (5) Asbestos Roofing sheet | (6) Tiles |
| (7) Concrete | (8) Others (specify) |
9. Materials for Floor
- | | |
|------------------------------------|------------------------|
| (1) Earth (rendered with cow dung) | (2) Earth not rendered |
| (3) Concrete/cement screed | (4) Terrazzo |
| (5) Tiles | (6) Others (specify) |
10. Types of Window
- | | |
|--------------------|-----------------------|
| (1) Wooden panel | (2) Mat covered |
| (3) Glass | (4) Steel |
| (5) Aluminum/Glass | (6) Uncovered opening |
11. Size of Windows
- | | |
|---|------------------------------------|
| (1) 0 - 0.05 sq.m (i.e. 6 ins x 12 ins) | (3) 0.21 - 1.09 sq.m (3 ft x 4 ft) |
| (2) 0.06 - 0.2 sq.m (18 ins x 18 ins) | (4) Above 1.09 sq.m |
12. Roof Members
- | | |
|---------------|----------------------|
| (1) Bamboo | (5) Sawn planks |
| (2) Palm | (6) Steel |
| (3) Acasia | (7) Others (specify) |
| (4) Teak Tree | |
13. Materials for Ceiling
- | | |
|---------------------------|---------------------------|
| (1) Bamboo with mud layer | (2) Planks with mud layer |
| (3) Concrete deck | (4) Asbestos sheets |
| (5) Polished wood | |
14. Type of Door
- | | |
|-------------------------|---------------------------|
| (1) Uncovered opening | (2) Ordinary wooden panel |
| (3) Carved wooden panel | (4) Plywood (flush) door |
| (5) Others (specify) | |
15. Housing Condition

Elements	Good	Fair	Poor	Remarks
(1) Walls				
(2) Roof				
(3) Window				
(4) Doors				
(5) Kitchen				
(6) Toilet				
(7) Bathroom				

Equipment/Facilities in the Compound

16. Type of Toilet Facility

Type	No. available	No. of holes	Condition
(1) W.C. available for single family			
(2) W.C. for multi-family use			
(3) Pit latrine for single family			
(4) Pit latrine for multi-family use			
(5) Pail system for single family			
(6) Pail system for multi-family use			
(7) No facility at all			

17. Bathroom

Type	No. available within the compound	No. available as outhouse	Condition
(1) Exclusive to family			
(2) Shared			
(3) No facility			

18. Where Cooking is Done

	No. available within the within the compound	No. available as outhouse	Condition
(1) Mud structure			
(2) Wooden structure			
(3) Thatched shed			

(4) Open cooking			
(5) Cooking on verandah			
(6) Passage			
(7) Others (specify)			

19. Source of Power for Cooking

- (1) Electric cooker
- (2) Gas cooker
- (3) Kerosene stove
- (4) Charcoal
- (5) Fire-wood
- (6) Others (specify)

20. Where washing is done

- (1) Laundry
- (2) Within the compound
- (3) Stream
- (4) Back of the compound

21. Source of Water Supply

- (1) Pipe-borne (in-house connection)
- (2) Pipe-borne (communal stand pipe)
- (3) Borehole
- (4) Well
- (5) Stream/spring
- (6) Water purchased from vendor

22. On water supply, state the major problems facing you in this area.

23. Do you have electricity in this compound?

24. If No, give reason.

25. What do you use as an alternative to electricity?

- (1) clay lamp
- (2) lantern
- (3) candle
- (4) generator
- (5) others (specify)

Housing Environment

26. Accessibility

Nature of Access	Width in Meter
(1) Organized footpath	
(2) Space between building	
(3) Tarred road	
(4) Untarred road	

27. Condition of Access
 (1) Free from obstruction (2) Motorable
 (3) Unmotorable (4) Littered with wastes
 (5) Full of pot-holes
28. Who maintains the access?
 (1) The compound only (2) Jointly by all compounds sharing it
 (3) Government (4) Others (specify)
29. Drainage Type
 (1) Open drain (2) Covered drain
 (3) None/unorganized drain
30. Who maintains the drain?
 (1) Compound residents (2) Never maintained
 (3) Others (specify)
31. Type of Household Refuse
 (1) Food items/vegetable matters (2) Paper
 (3) Animal droppings (4) Leaves
 (5) Ashes (6) Others (specify)
32. Types of Refuse Containers
 (1) Calabash with/without cover
 (2) Basket with/without cover
 (3) Plastic buckets with/without cover
 (4) Metal buckets with/without cover
33. How is Refuse Disposed Of?
 (1) Burnt within the compound
 (2) Carried to nearby open space
 (3) Carried to refuse dump exclusive to family
 (4) Carried to communal refuse dump
 (5) Carried to communal incinerator
 (6) Collected by government agency
 (7) Collected by private waste collectors
 (8) Others (specify)
34. How is the Environment Maintained?
 (1) Sweeping (2) Weeding
 (3) Others (specify)
35. How Frequently do you Sweep the Surrounding?
 (1) Once a day (2) Twice a day
 (3) Once in 2 days (4) Twice a week
36. Whose Duty is it to Sweep the Surrounding?
 (1) Male children only (2) Female children only

- (3) Male and female children (4) Women only
(5) Others (specify)
37. Whose duty is it to hoe the surrounding?
(1) Male children only
(2) Female children only
(3) Male and female children only
(4) Elderly men only
(5) Elderly men and male children
(6) Others (specify)
38. Who provides the refuse dump being used?
(1) This compound (2) Communally owned
(3) One family in the neighbourhood (4) Government
(5) Others (specify)
39. Size of the Refuse Dump
(1) 0 - 2.0 m² (2) 2.1 - 4.0 m²
(3) 4.1 - 6.0 m² (4) Above 6.0 m²
40. Who Maintains the Refuse Dump?
(1) Residents of this compound only
(2) All the compounds using the dump
(3) Government workers (4) Private firm
(5) Never maintained (6) Others (specify)
41. Does this compound have its specific day or period for environmental sanitation?
42. If Yes, specify period. _____
43. Do you consider this adequate?
44. Do you observe the two environmental sanitation days assigned by government?
45. What do you consider as the environmental problems facing people residing in traditional compounds?
46. What will you suggest as solutions?
47. What are the advantages of traditional residential quarters/neighbourhoods over modern ones?
48. What are the disadvantages?

PART B

This section is meant for the staff of Iseyin Local Government Town Planning Department.

1. State the number of building plans received per year for each of the following house types in Iseyin from 1991 to 1995.
 - (1) Mud compounds
 - (2) Other types of mud houses
 - (3) Face-me-I-face-you (Brazilian type)
 - (4) Modern courtyard house
 - (5) Self-contained flats
2. How many of each house type in question 1 above were actually built per year from 1991 to 1995?
3. Do you think that traditional compound is going into extinction in Iseyin?
4. If Yes, what factors are responsible?
5. What do you consider to be the advantages of traditional compounds?
6. What are the disadvantages (if any) of the traditional compounds?
7. What is your assessment of the environment of traditional residential quarters?
8. How can the environmental quality be enhanced?
9. How can the improved environment be sustained?
10. Will you advocate for the resuscitation of the traditional compounds?
11. If Yes, give reasons.
12. If No, state your reasons.

PART C

This section is meant for the builders and craftpersons of the traditional compounds.

1. What is your occupation?
(1) Carpentry (2) Bricklaying (3) Mason (4) 1&2 (5) Others (specify)
2. For how many years have you been on this job?
3. How did you come about this trade?

4. Do you have any other occupation apart from above?
5. If Yes, specify.
6. Do traditional builders/craftpersons have associations?
7. What categories of people are required in the construction of a traditional compound?
8. Provided all materials are available, how long will it take you to complete one room using traditional building materials and techniques?
 - (1) In the raining season
 - (2) In the dry season
9. What types of materials are needed to construct traditional compounds?

Materials	Life Span
1. For walls	
2. For roofs	
3. For windows	
4. For doors	
5. For floors	

10. How durable are these materials?
 - (1) Very Durable
 - (2) Fairly Durable
 - (3) Not Durable
11. How do you treat the floors?
12. List out the components of the compound that require regular maintenance in order of frequency.
13. Who actually carries out maintenance works on compounds?
 - (1) Residents of the compound
 - (2) Builders & Craftpersons
 - (3) Others (specify)
14. State when you undertook the construction of a traditional compound last and actual location in Iseyin.
15. Are you still actively engaged in the construction of traditional compounds?
16. If No, give reasons.
17. Have you ever involved yourself in the construction of modern buildings?
18. If Yes, how does the construction of traditional buildings differ from that of the

modern buildings?

19. Has any aspect of the traditional compound been modernized?
20. If Yes, mention those aspects.
21. Do traditional builders require any additional training/skill to handle the modern aspects of the house construction?
22. If Yes, mention the skill required.
23. List out the type of residential dwelling being built in Iseyin at present in order of quantity.
 - (1) Traditional Courtyard Compound
 - (2) Modern Courtyard
 - (3) Face-me-I-face-you (Brazilian type)
 - (4) Self-contained house
 - (5) Duplex/flat
24. How do you distinguish a traditional compound from a modern one?
25. What are the advantages (if any) of traditional buildings over modern ones?
26. What are the disadvantages (if any) of traditional buildings over modern buildings?
27. In olden days, what were the source(s) of financing construction of compounds?
 - (1) Joint family effort (2) Sole-financing by Family Head (3) Both 1 & 2
 - (4) Others (specify)
28. Do you think traditional compounds are going into extinction in Iseyin?
29. If Yes, what is the rate?
 - (1) Alarming (2) Gradual
30. List the factors that are responsible for the decline of compounds in order of importance.
 - (1) Escape from family responsibility
 - (2) Effect of Western Education
 - (3) Locational and technological obsolescence
 - (4) Improvement in economic status of members
 - (5) Enhanced social status of members
 - (6) Others (specify)
31. Who are the designers of traditional compounds?
 - (1) Bricklayers
 - (2) Carpenters
 - (3) Bricklayers & Carpenters
 - (4) Elders in the family

PART D: For a cross-section of the public.

Dear Respondent,

This study is concerned with the Yoruba traditional (mud) compounds which are declining in quantity and gradually going into extinction. It would be appreciated if you could spare a few minutes to put down your opinion about the compounds and their overall environment. Thank you.

1. What is your profession?-----
2. What is your present occupation?-----
3. Are you familiar with Yoruba traditional compounds? (1) Yes (2) No
4. Have you lived in one before? (1) Yes (2) No
5. If Yes, for how many years? -----
6. Do you still live in a traditional compound? (1) Yes (2) No
7. If No, in what type of house do you live now? -----
8. Why did you move out of the compound? -----

9. What do you consider to be the advantage(s) of traditional compounds -----

10. What are the disadvantages (if any) -----

11. What did you gain by living in the traditional compound? -----

12. How will you describe the physical environment of traditional compounds? -----

13. If you have never lived in a traditional compound, do you think you can live in one?
(1) Yes (2) No
14. If No, give reasons -----
15. What do you think can make you live in a traditional compound? -----

16. Will you say that traditional compounds are going into extinction in Yoruba towns and cities?
(1) Yes (2) No
17. If Yes, what factor(s) do you think is/are responsible? -----

18. What are the implications of the decline of traditional compounds on housing situation in our towns/cities, and the socio-cultural/economic/physical landscape? -----

19. Is there any town planning or other regulations either in Oyo State or Nigeria relating to mud buildings? (1) Yes (2) No
(If Yes, please give details or a copy of the regulation(s))
20. Do you think this house type should be revived? (1) Yes (2) No
21. If Yes, give reasons -----

22. Suggest ways of reviving the traditional compound -----

23. Are you familiar with modern courtyard houses? (1) Yes (2) No
24. How does a modern courtyard house differ from a traditional compound? -----

25. Given the opportunity will you live in a courtyard house? (1) Yes (2) No
26. Does a courtyard house permit multiple tenants like the face-me-I-face-you buildings?
(1) Yes (2) No
27. Other comments -----

APPENDIX 2

INDIGENOUS KNOWLEDGE GLOBAL RESOURCE CENTRES.

ARCIK	African Resource Centre for Indigenous Knowledge, Ibadan, Nigeria.
BRARCIK	Brazilian Resource Centre for Indigenous Knowledge, Jaboticabal, Brazil.
BURCIK	Burkina Faso Resource Centre for Indigenous Knowledge, Ouagadougou.
CARIKS	Centre for Advanced Research on Indigenous Knowledge Systems, India.
CECIK	Centre for Cosmovisions and Indigenous Knowledge, Tamale, Ghana.
CEFAS	Centre for food and Agricultural Strategy, Makurdi, Nigeria.
CIRAN	Centre for International Research and Advisory Network, The Netherlands.
CIKARD	Centre for Indigenous Knowledge for Agriculture and Rural Development, Ames, USA.
CIKFAB	Centre for Indigenous Knowledge Fourah Bay College, Freetown, Sierra Leone.
CIKIB	Centre for Indigenous Knowledge on Indian Bioresources, Lucknow, India.
CIKO	Cameroon Indigenous Knowledge Organization, Buea, Cameroon.
CIKPREM	Centre for Indigenous Knowledge on Population Resource and Environmental Management, Nsukka, Nigeria.
CTK	Centre for Traditional Knowledge, Ottawa, Ontario, Canada.
ELLRIK	Elliniko Resource Centre for Indigenous Knowledge, Heraklion, Crete, Greece
GHARCIK	Ghana Resource Centre for Indigenous Knowledge, Cape Coast, Ghana.
GERCIK	Georgia Resource Centre for Indigenous Knowledge, Tbilisi, Georgia.
ICIK	Interinstitutional Consortium for Indigenous Knowledge, Pennsylvania, USA.
INRESC	Indigenous Resource Study Centre, Addis Ababa, Ethiopia.
INRIK	Indonesian Resource Centre for Indigenous Knowledge, Bandung, Indonesia.
KENRIK	Kenya Resource Centre for Indigenous Knowledge, Nairobi, Kenya.

LEAD	Leiden Ethnosystems And Development Programme, Leiden, The Netherlands.
MARCIK	Madagascar Resource Centre for Indigenous Knowledge, Antananarivo, Madagascar.
MARECIK	Maasai resource Centre for Indigenous Knowledge, Arusha, Tanzania.
NIRCIK	Nigerian Centre for Indigenous Knowledge, Zaria, Nigeria.
PHIRCSDIK	Philippine Resource Centre for Sustainable Development and Indigenous Knowledge, Los Banos, Laguna, The Philippines.
REPPIKA	Regional Program for the Promotion of Indigenous Knowledge in Asia, Silang, Cavite, The Philippines.
RIDSCA	Mexican Research, Teaching and Service Network on indigenous Knowledge, Puebla, Pue, Mexico.
RURCIK	Russian Resource Centre for Indigenous Knowledge, Nemchinovka-1, Russia.
SARCIK	South African Resource Centre for Indigenous Knowledge, Somerset West, South Africa.
SLARCIK	Sri Lanka Resource Centre for Indigenous Knowledge, Nugegoda, Sri Lanka.
URURCIK	Uruguayan Resource Centre for Indigenous Knowledge, Sayago, Uruguay.
VERSIK	Venezuelan Resource Secretariat for Indigenous Knowledge, Trujillo, Venezuela.

APPENDIX 3

Glossary of Yoruba Terms Used in the Thesis

Some Yoruba words possess same spelling yet may have different meanings depending at times on the way they are pronounced. The difference in pronunciation is effected through the use of vowels. For example, if "O" is used in a word without a dot under it (the "O"), as in *Owo*, (money), the same word would mean *Owo* (hand) if the "Os" carry dots under them.

Below are the Yoruba words/terms used in the thesis and their English equivalents.

<i>aafin</i>	- palace
<i>abogunde</i>	- a type of door
<i>abo ijeun</i>	- pans, plates
<i>ada</i>	- cutlass
<i>adugbo</i>	- ward, neighbourhood, district
<i>afara</i>	- (<i>Terminalia superba</i>)
<i>afinju</i>	- an hygiene-conscious/neat person
<i>aginju</i>	- forest
<i>agbado</i>	- corn
<i>agbo ile</i>	- flock of houses; the Yoruba traditional compound
<i>agbon</i>	- coconut (<i>Cocos nucifera</i>)
<i>aja</i>	- ceiling
<i>ajakale arun</i>	- epidemics
<i>akengbe</i>	- gourd
<i>akitan</i>	- refuse dump
<i>alaafia</i>	- well-being
<i>Alaafin</i>	- title of King of Oyo
<i>alafo</i>	- space, gap
<i>amala</i>	- yam flour porridge
<i>apere, agbon</i>	- basket made from palm fronds
<i>araba</i>	- (<i>Ceiba pentandra</i>)
<i>arere</i>	- (<i>Triplochiton scleroxylon</i>)
<i>aro ipale</i>	- (<i>Crossopteryx febrifugal</i>)
<i>aroso</i>	- story
<i>Aseyin</i>	- title of King of Iseyin
<i>aso oke</i>	- narrow-strip hand-woven textile
<i>asumwon</i>	- (<i>Senna alata/cassia alata</i>)
<i>atolu, atunluto</i>	- town planner
<i>atolu, yaworan ilu</i>	- urban designer
<i>atupa</i>	- lamp
<i>awo tanganran</i>	- ceramic plates
<i>ayanilowo</i>	- money lender
<i>yaworan ile</i>	- architect, draughtsperson
<i>ayo</i>	- game
<i>babalawo</i>	- Ifa priest
<i>baale</i>	- head of household/family (single- or extended)
<i>Baale</i>	- Mayor or head of a village

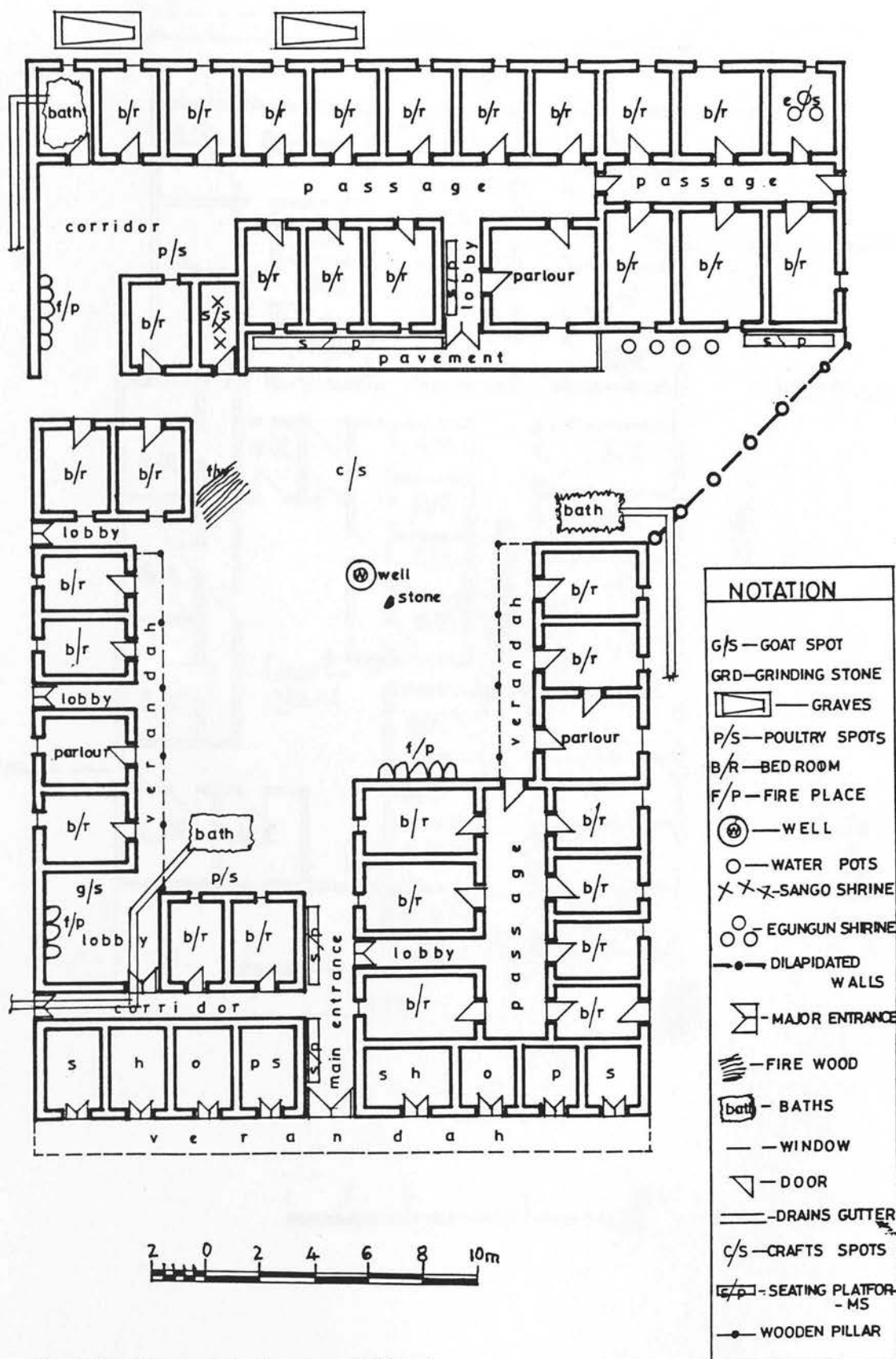
<i>beere</i>	- a type of thatch or long grass (<i>Anadelphia arrecta</i>)
<i>bembe</i>	- boxes made from metal sheets
<i>boto, igbole aja</i>	- a mixture of leaves and animal manure for rendering wall/floor
<i>dongoyaro</i>	- neem, (<i>Azadirachta indica</i>)
<i>ede Yoruba</i>	- Yoruba language
<i>eewo</i>	- taboo
<i>egusi</i>	- melon
<i>egbe</i>	- association, clubs
<i>eko tutu</i>	- cold pap
<i>ekuro Ifa</i>	- Ifa's palm kernels
<i>elu</i>	- West African indigo (<i>Lonchocarpus cyanescens</i>)
<i>elubo</i>	- yam flour
<i>emu</i>	- palm wine
<i>eran osin</i>	- domesticated animals
<i>ere osupa</i>	- moonlight play
<i>esin</i>	- horses
<i>eso</i>	- seed
<i>ewa</i>	- beans
<i>ewe</i>	- leaf
<i>ewebe</i>	- vegetables
<i>ewure</i>	- goat
<i>ewuro Ijebu</i>	- (<i>Solanum erianthum</i>)
<i>ferese</i>	- window
<i>fitila</i>	- clay lamp
<i>gedu</i>	- teak (<i>Tectona grandis</i>)
<i>gbegilere</i>	- wood carver
<i>ibon</i>	- gun
<i>idoti</i>	- dirty things
<i>idun</i>	- bedbug (<i>Cimicidae</i>)
<i>igba</i>	- calabash
<i>igbe eran</i>	- animal droppings/manure
<i>igbo</i>	- forest
<i>igbo Egungun</i>	- forest of the Masquerade
<i>igbo Ifa</i>	- forest of the deity of wisdom, religious forest
<i>igbo ile</i>	- home forest
<i>igbo iwin</i>	- forest of spirits, abode of demons/fairies
<i>igbo ode</i>	- hunting forest
<i>igbo Oro</i>	- forest of the bullroarer
<i>ijakadi</i>	- wrestling
<i>ijoye</i>	- chief
<i>ikoko amo</i>	- clay pots
<i>ile petesi</i>	- storey building
<i>Ile Yoruba</i>	- Yorubaland
<i>ile ebi</i>	- family land
<i>ileke iyun</i>	- beads
<i>ilekun</i>	- door
<i>ilera</i>	- physical health
<i>ilu</i>	- town
<i>imototo</i>	- cleanliness, proper sanitary behaviour
<i>iroko</i>	- (<i>Milicia excelsa</i>)

<i>isasun amo</i>	- clay pans/pots
<i>isokan</i>	- unity
<i>itage</i>	- mud platform inside rooms
<i>itale</i>	- formicidae
<i>itan</i>	- story
<i>iyan</i>	- pounded yam
<i>jiga</i>	- jigger, chigger (Tunga penetrans)
<i>kaju</i>	- cashew
<i>kanga</i>	- wells
<i>kanlekanle</i>	- carpenter
<i>kasia</i>	- cassia
<i>kobi</i>	- steeples
<i>koto</i>	- ditch
<i>malu</i>	- cow
<i>molemole, olomole</i>	- local builder
<i>mongoro</i>	- mango (Mangifera indica)
<i>nkan ogbin</i>	- plants
<i>Oba</i>	- King
<i>obi</i>	- kolanut
<i>odede</i>	- corridor, passage
<i>odi ilu</i>	- town wall
<i>odu Ifa</i>	- Ifa corpus
<i>odun Oro</i>	- Oro (bullroarer's) festival
<i>ogano</i>	- mahogany, (Khaya senegalensis)
<i>ogiri</i>	- wall
<i>ogun</i>	- war
<i>oja</i>	- market
<i>ojiji</i>	- shadow
<i>aju agbara</i>	- drainage ditches, erosion channel
<i>oko egan</i>	- bush farm, distant farm
<i>oko etile</i>	- farm of the outskirts, farm close to town
<i>okookoo</i>	- a type of medicinal climber
<i>okun</i>	- rope
<i>oloja</i>	- owner of the market
<i>Olorun</i>	- God, owner of heaven
<i>omo Ebedi</i>	- offspring of Ebedi (Ebedi was the founder of Iseyin)
<i>onimo ayika</i>	- environmentalist
<i>ooru</i>	- heat
<i>oorun</i>	- smell
<i>ope</i>	- oil palm (Elaeis guineensis)
<i>opon Ifa</i>	- Ifa divination board
<i>orin</i>	- chewing stick
<i>orisa</i>	- deity
<i>orule</i>	- roof
<i>orogbo</i>	- bitter cola
<i>osun</i>	- locally made body cream
<i>osupa</i>	- moon
<i>ota ibon</i>	- bullet
<i>otika</i>	- guinea corn drink
<i>owe</i>	- communal help

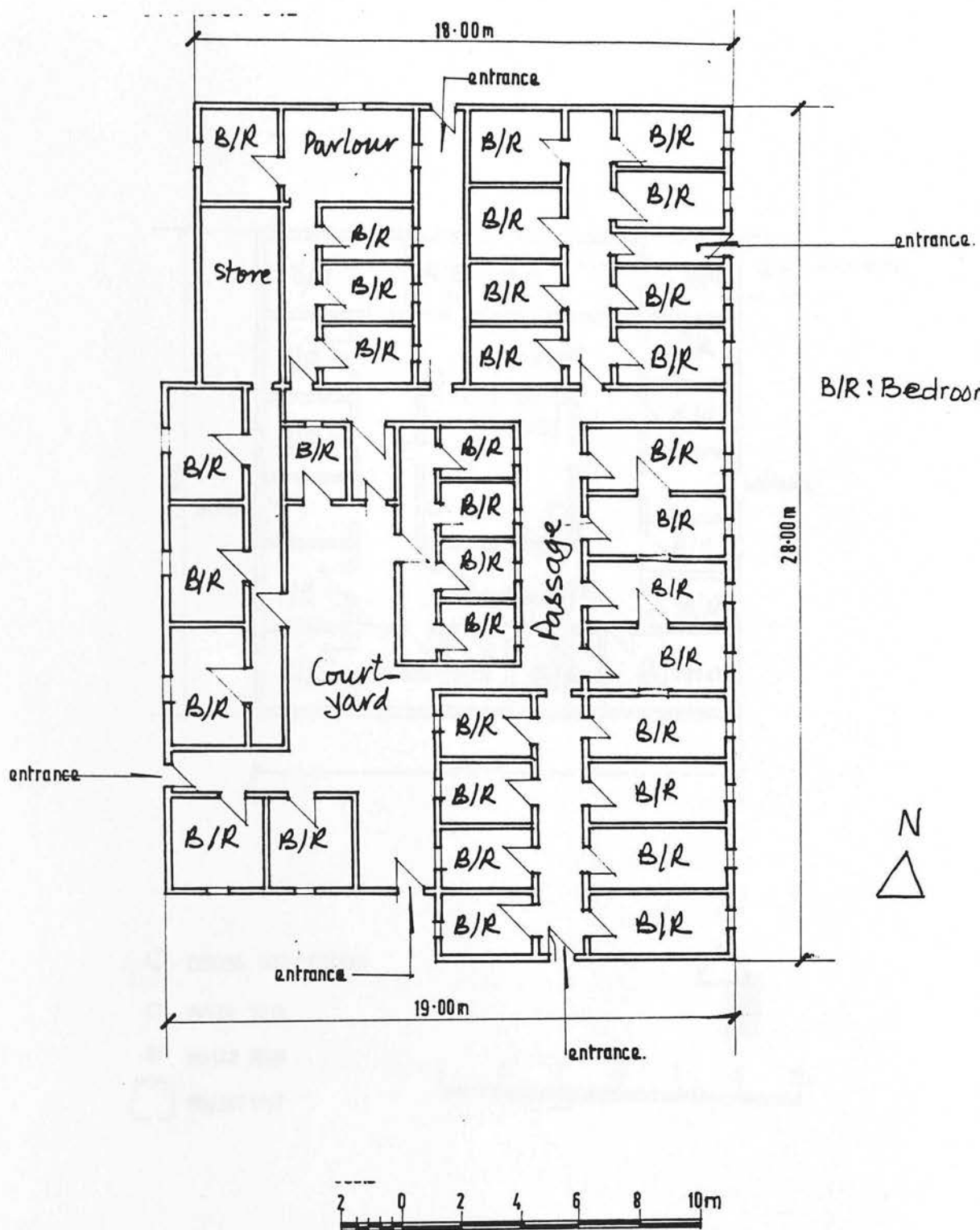
APPENDIX 4

Plans of Compounds Surveyed at Iseyin.

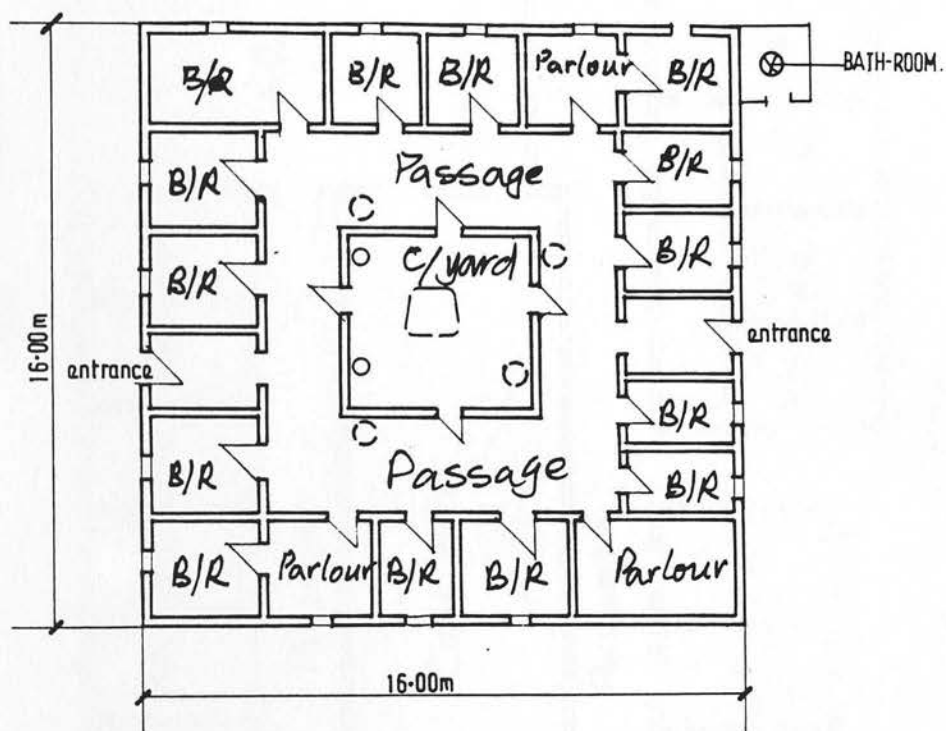
In this appendix, the plans of some of the compounds surveyed are presented in addition to those contained in the text. Not all the 76 plans are presented in this thesis for the fact that they all possess relatively similar features. And also because this will unduly increase the volume of the thesis. The originals of the drawings for the 76 compounds surveyed are, however, deposited with and held in the Iseyin Local Government Town Planning Department, Iseyin, Nigeria.



Appendix 4-1: Alawonpala Compound, Ekunle.
(ID No.: PHC/01/001/049).



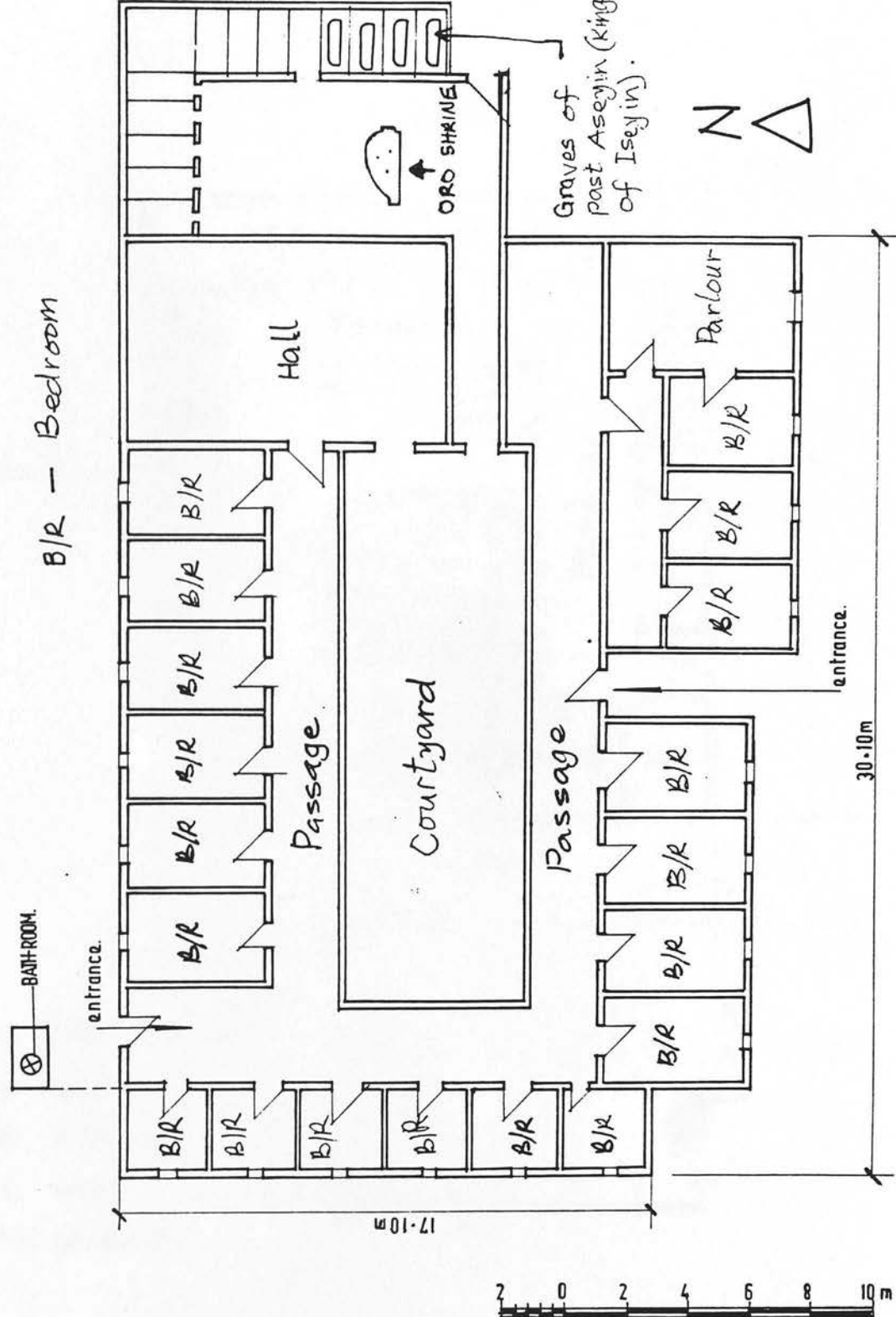
Appendix 4-2: Ooja Compound, Adabo area, Iseyin.
(ID No.: PHC/01/003/642)



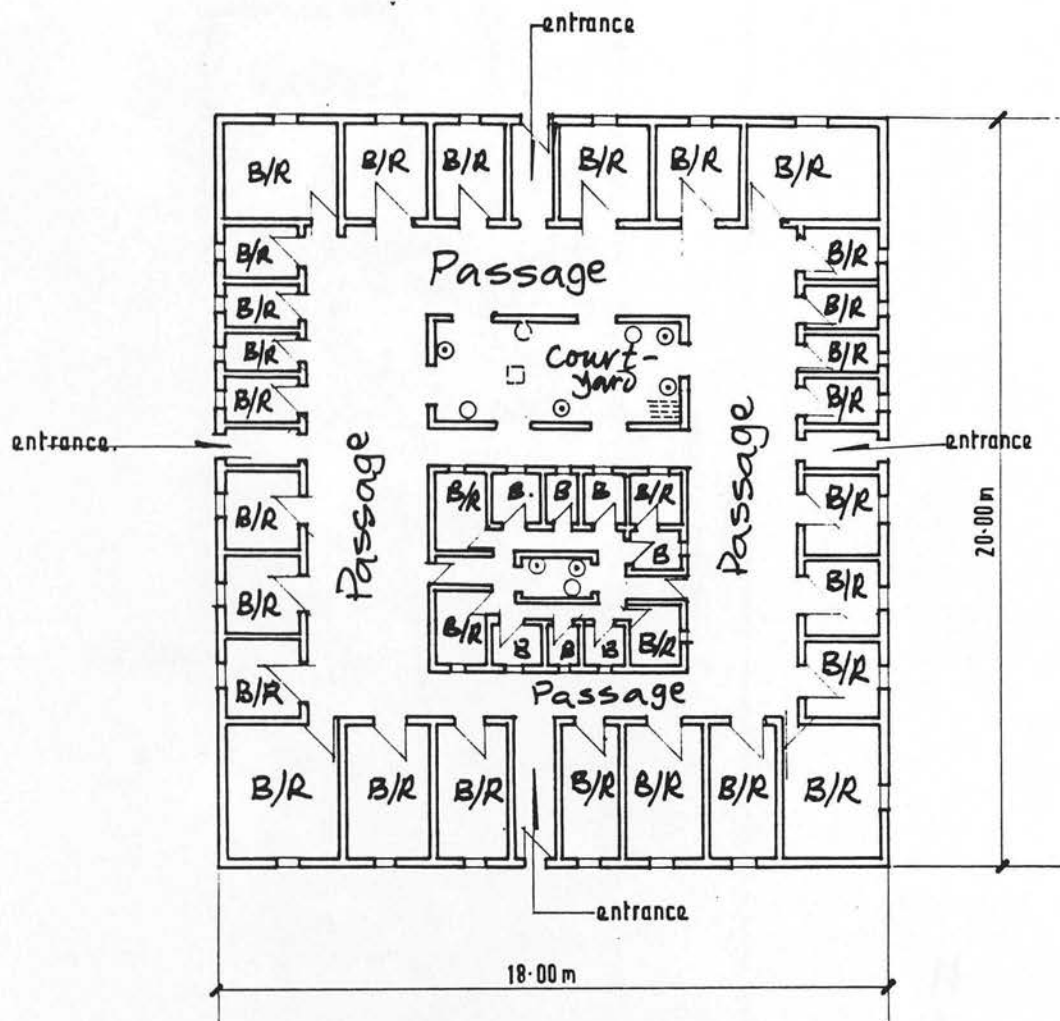
- COOKING SPOT / KITCHEN.
- WATER POTS.
- ⊙ WATER DRUM
- POULTRY SPOT



Appendix 4-3: Agboroode Compound, Iseyin.
(ID No.: PHC/01/003/204).



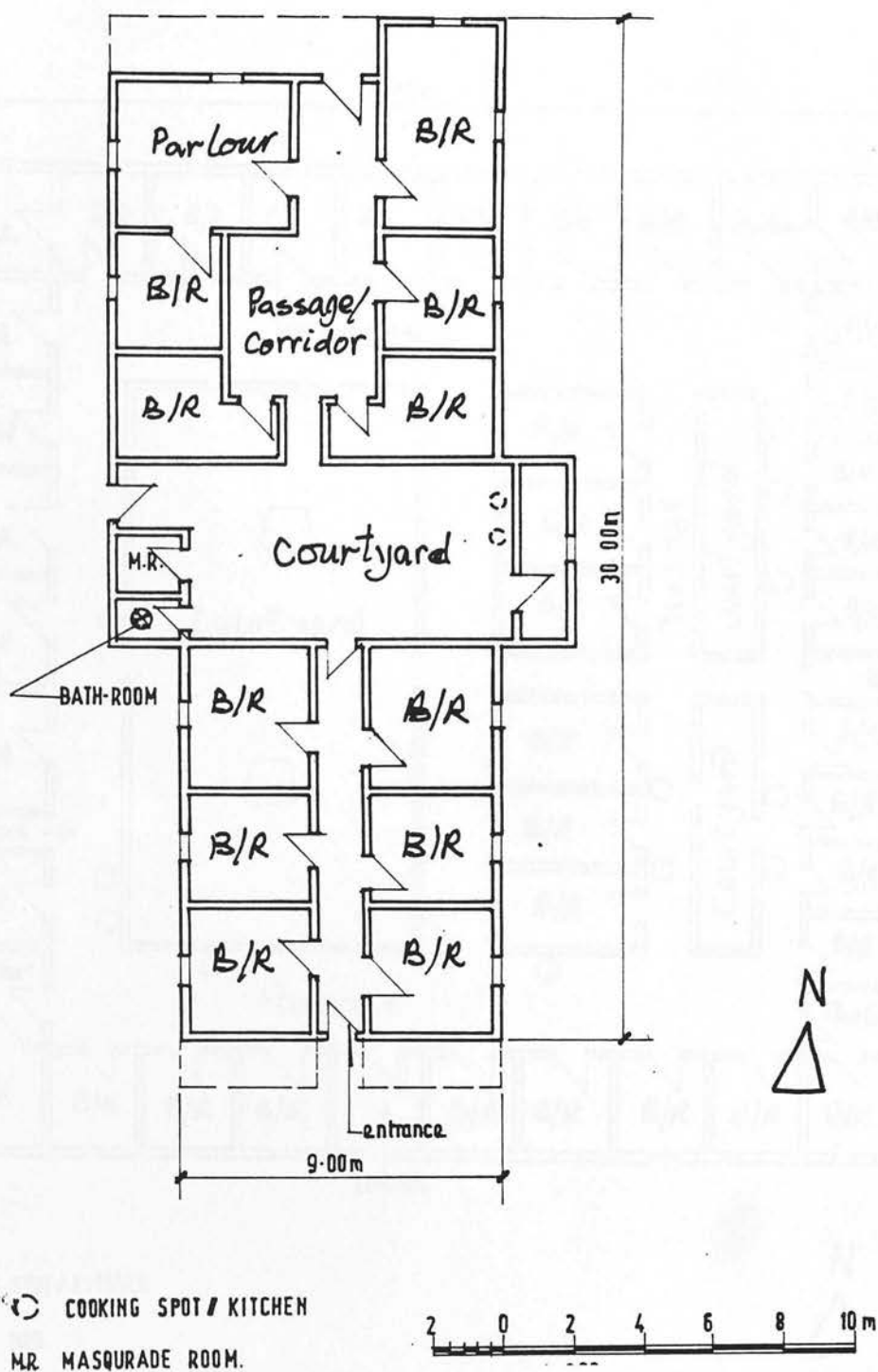
Appendix 4-4: Aaba Compound, Itan, Isalu. (ID No.: PHC/01/003/300). This compound has great cultural significant to Iseyin because it is here that all dead Aseyins (Kings of Iseyin) are buried.



- COOKING SPOT / KITCHEN.
- WATER POTS.
- ⊙ WATER DRUM
- GRAVE
- ≡≡≡ FIRE WOOD SPOT.



Appendix 4-5: Agbagbaa Compound, Oke Babadudu.
(ID No.: 19A/495).



Appendix 4-6: Olode Compound, Isalu.
(ID No.: PHC/001/003/521).

